10-PZ07FCA100RG-LQ35L60Y
datasheet

***flow*FC 0** **1200 V / 100 A**

Features

- Three-level flying capacitor topology
- Ultra-fast 650V components
- Integrated capacitor
- Integrated NTC

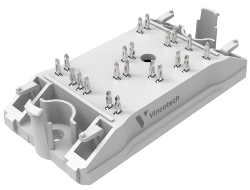
Target applications

- Solar Inverters

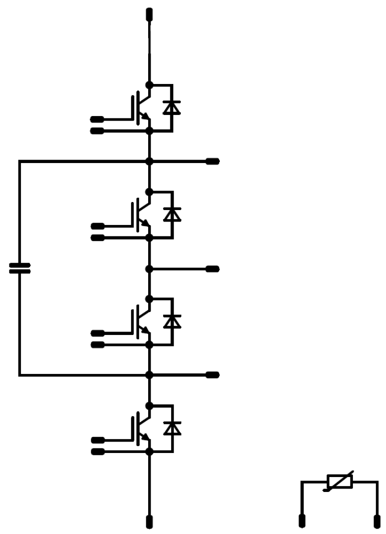
Types

- 10-PZ07FCA100RG-LQ35L60Y

flow 0 12 mm housing



Schematic



Vincotech

Maximum Ratings

T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions		Value	Unit
AC 1 Switch L					
Collector-emitter voltage	V_{CES}			650	V
Collector current (DC current)	I_C	$T_j = T_{jmax}$	T_s = 80 °C	80	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	130	W
Gate-emitter voltage	V_{GES}			±30	V
Maximum junction temperature	T_{jmax}			175	°C
AC 1 Diode L					
Peak repetitive reverse voltage	V_{RRM}			650	V
Forward current (DC current)	I_F	$T_j = T_{jmax}$	T_s = 80 °C	76	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	104	W
Maximum junction temperature	T_{jmax}			175	°C
AC 1 Switch H					
Collector-emitter voltage	V_{CES}			650	V
Collector current (DC current)	I_C	$T_j = T_{jmax}$	T_s = 80 °C	80	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	130	W
Gate-emitter voltage	V_{GES}			±30	V
Maximum junction temperature	T_{jmax}			175	°C

Maximum Ratings

T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions		Value	Unit
AC 1 Diode H					
Peak repetitive reverse voltage	V_{RRM}			650	V
Forward current (DC current)	I_F	$T_j = T_{jmax}$	T_s = 80 °C	76	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	104	W
Maximum junction temperature	T_{jmax}			175	°C
AC 2 Switch L					
Collector-emitter voltage	V_{CES}			650	V
Collector current (DC current)	I_C	$T_j = T_{jmax}$	T_s = 80 °C	80	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	130	W
Gate-emitter voltage	V_{GES}			±30	V
Maximum junction temperature	T_{jmax}			175	°C
AC 2 Diode L					
Peak repetitive reverse voltage	V_{RRM}			650	V
Forward current (DC current)	I_F	$T_j = T_{jmax}$	T_s = 80 °C	76	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	104	W
Maximum junction temperature	T_{jmax}			175	°C

Maximum Ratings

T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions		Value	Unit
AC 2 Switch H					
Collector-emitter voltage	V_{CES}			650	V
Collector current (DC current)	I_C	$T_j = T_{jmax}$	T_s = 80 °C	80	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	130	W
Gate-emitter voltage	V_{GES}			±30	V
Maximum junction temperature	T_{jmax}			175	°C
AC 2 Diode H					
Peak repetitive reverse voltage	V_{RRM}			650	V
Forward current (DC current)	I_F	$T_j = T_{jmax}$	T_s = 80 °C	76	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}		400	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$	T_s = 80 °C	104	W
Maximum junction temperature	T_{jmax}			175	°C
Flying Capacitor					
Maximum DC voltage	V_{MAX}			630	V
Operation Temperature	T_{op}			-55 ... 125	°C

Module Properties

Parameter	Symbol	Conditions		Value	Unit
Thermal Properties					
Storage temperature	T_{stg}			-40…+125	°C
Operation temperature under switching condition	T_{jop}			-40…+(T_{jmax} - 25)	°C
Isolation Properties					
Isolation voltage	V_{isol}	DC Test Voltage*	t_p = 2 s	6000	V
Isolation voltage	V_{isol}	AC Voltage	t_p = 1 min	2500	V
Creepage distance				min. 12,7	mm
Clearance				8,45	mm
Comparative Tracking Index	CTI			≥ 200	

*100 % tested in production

Characteristic Values

Parameter	Symbol	Conditions	V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	Unit
AC 1 Switch L										
Static										
Gate-emitter threshold voltage	$V_{GE(th)}$			5	0,066	25	5	6	7	V
Collector-emitter saturation voltage	V_{CEsat}		15		100	25 125 150		1,5 1,66 1,7	1,9(1)	V
Collector-emitter cut-off current	I_{CES}		0	650		25			0,02	mA
Gate-emitter leakage current	I_{GES}		30	0		25			0,4	µA
Internal gate resistance	r_g							None		Ω
Input capacitance	C_{ies}	f = 1 Mhz	0	30		25		8400		pF
Output capacitance	C_{oes}							208		pF
Reverse transfer capacitance	C_{res}							158		pF
Gate charge	Q_g		15	400	100	25		282		nC
Thermal										
Thermal resistance junction to sink (2)	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,73		K/W
Dynamic										
Turn-on delay time	$t_{d(on)}$	R_{gon} = 21,3 Ω R_{goff} = 21,3 Ω	-5/15	600	70	25 125 150		145,12 136,32 134,08		ns
Rise time	t_r					25 125 150		25,76 26,4 26,4		ns
Turn-off delay time	$t_{d(off)}$					25 125 150		430,72 462,56 472,32		ns
Fall time	t_f					25 125 150		15,52 16,76 22,68		ns
Turn-on energy (per pulse)	E_{on}	Q_{rFWD}=2,23 µC Q_{rFWD}=3,92 µC Q_{rFWD}=4,72 µC				25 125 150		2,98 3,72 4,04		mWs
Turn-off energy (per pulse)	E_{off}					25 125 150		2,41 2,82 2,98		mWs

Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	
AC 1 Diode L										
Static										
Forward voltage	V_F				100	25 125 150		1,5 1,57 1,54	1,9(1)	V
Reverse leakage current	I_R	V_r = 650 V				25			20	µA
Thermal										
Thermal resistance junction to sink (2)	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,92		K/W
Dynamic										
Peak recovery current	I_{RRM}	d*i*/d*t*=3223 A/µs d*i*/d*t*=3036 A/µs d*i*/d*t*=3069 A/µs	-5/15	600	70	25 125 150		74,4 87,77 93,12		A
Reverse recovery time	t_{rr}					25 125 150		69,37 97,24 102,46		ns
Recovered charge	Q_r					25 125 150		2,23 3,92 4,72		µC
Reverse recovered energy	E_{rec}					25 125 150		0,546 1,04 1,28		mWs
Peak rate of fall of recovery current	$(di_{rf}/dt)_{max}$					25 125 150		4566 2784 2162		A/µs

Characteristic Values

Parameter	Symbol	Conditions	V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Values Min	Typ	Max	Unit
AC 1 Switch H										
Static										
Gate-emitter threshold voltage	$V_{GE(th)}$			5	0,066	25	5	6	7	V
Collector-emitter saturation voltage	V_{CEsat}		15		100	25 125 150		1,5 1,66 1,7	1,9(1)	V
Collector-emitter cut-off current	I_{CES}		0	650		25			0,02	mA
Gate-emitter leakage current	I_{GES}		30	0		25			0,4	µA
Internal gate resistance	r_g							None		Ω
Input capacitance	C_{ies}	f = 1 Mhz	0	30		25		8400		pF
Output capacitance	C_{oes}							208		pF
Reverse transfer capacitance	C_{res}							158		pF
Gate charge	Q_g		15	400	100	25		282		nC
Thermal										
Thermal resistance junction to sink (2)	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,73		K/W
Dynamic										
Turn-on delay time	$t_{d(on)}$	R_{gon} = 21,3 Ω R_{goff} = 21,3 Ω	-5/15	600	70	25 125 150		145,12 136,32 134,08		ns
Rise time	t_r					25 125 150		25,76 26,4 26,4		ns
Turn-off delay time	$t_{d(off)}$					25 125 150		430,72 462,56 472,32		ns
Fall time	t_f					25 125 150		15,52 16,76 22,68		ns
Turn-on energy (per pulse)	E_{on}	Q_{rFWD}=2,23 µC Q_{rFWD}=3,92 µC Q_{rFWD}=4,72 µC				25 125 150		2,98 3,72 4,04		mWs
Turn-off energy (per pulse)	E_{off}					25 125 150		2,41 2,82 2,98		mWs

Characteristic Values

Parameter	Symbol	Conditions	V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	Unit
AC 1 Diode H										
Static										
Forward voltage	V_F				100	25 125 150		1,5 1,57 1,54	1,9[1]	V
Reverse leakage current	I_R	V_r = 650 V				25			20	µA
Thermal										
Thermal resistance junction to sink [2]	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,92		K/W
Dynamic										
Peak recovery current	I_{RRM}	di/dt=3223 A/µs di/dt=3036 A/µs di/dt=3069 A/µs	-5/15	600	70	25 125 150		74,4 87,77 93,12		A
Reverse recovery time	t_{rr}					25 125 150		69,37 97,24 102,46		ns
Recovered charge	Q_r					25 125 150		2,23 3,92 4,72		µC
Reverse recovered energy	E_{rec}					25 125 150		0,546 1,04 1,28		mWs
Peak rate of fall of recovery current	$(di_{rf}/dt)_{max}$					25 125 150		4566 2784 2162		A/µs

Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	
AC 2 Switch L										
Static										
Gate-emitter threshold voltage	$V_{GE(th)}$			5	0,066	25	5	6	7	V
Collector-emitter saturation voltage	V_{CEsat}		15		100	25 125 150		1,5 1,66 1,7	1,9(1)	V
Collector-emitter cut-off current	I_{CES}		0	650		25			0,02	mA
Gate-emitter leakage current	I_{GES}		30	0		25			0,4	μA
Internal gate resistance	r_g							None		Ω
Input capacitance	C_{ies}	f = 1 Mhz	0	30		25		8400		pF
Output capacitance	C_{oes}							208		pF
Reverse transfer capacitance	C_{res}							158		pF
Gate charge	Q_g		15	400	100	25		282		nC
Thermal										
Thermal resistance junction to sink (2)	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,73		K/W
Dynamic										
Turn-on delay time	$t_{d(on)}$	R_{gon} = 16 Ω R_{goff} = 16 Ω	-5/15	600	70	25 125 150		113,12 106,88 105,28		ns
Rise time	t_r					25 125 150		20,64 21,12 21,12		ns
Turn-off delay time	$t_{d(off)}$					25 125 150		327,52 355,68 363,84		ns
Fall time	t_f					25 125 150		6,58 29,31 35,84		ns
Turn-on energy (per pulse)	E_{on}	Q_{rFWD}=2,25 μC Q_{rFWD}=4,13 μC Q_{rFWD}=4,91 μC				25 125 150		2,54 3,32 3,6		mWs
Turn-off energy (per pulse)	E_{off}					25 125 150		2,07 2,5 2,65		mWs

Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	
AC 2 Diode L										
Static										
Forward voltage	V_F				100	25 125 150		1,5 1,57 1,54	1,9[1]	V
Reverse leakage current	I_R	V_r = 650 V				25			20	µA
Thermal										
Thermal resistance junction to sink [2]	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,92		K/W
Dynamic										
Peak recovery current	I_{RRM}	d*i*/d*t*=3999 A/µs d*i*/d*t*=3924 A/µs d*i*/d*t*=3777 A/µs	-5/15	600	70	25 125 150		79,53 95,04 100,2		A
Reverse recovery time	t_{rr}					25 125 150		67,91 89,42 95,11		ns
Recovered charge	Q_r					25 125 150		2,25 4,13 4,91		µC
Reverse recovered energy	E_{rec}					25 125 150		0,576 1,17 1,43		mWs
Peak rate of fall of recovery current	$(di_{rf}/dt)_{max}$					25 125 150		4919 2743 1906		A/µs

Characteristic Values

Parameter	Symbol	Conditions	V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_{F} [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Values Min	Typ	Max	Unit
AC 2 Switch H										
Static										
Gate-emitter threshold voltage	$V_{GE(th)}$			5	0,066	25	5	6	7	V
Collector-emitter saturation voltage	V_{CEsat}		15		100	25 125 150		1,5 1,66 1,7	1,9(1)	V
Collector-emitter cut-off current	I_{CES}		0	650		25			0,02	mA
Gate-emitter leakage current	I_{GES}		30	0		25			0,4	µA
Internal gate resistance	r_g							None		Ω
Input capacitance	C_{ies}	f = 1 Mhz	0	30		25		8400		pF
Output capacitance	C_{oes}	f = 1 Mhz	0	30		25		208		pF
Reverse transfer capacitance	C_{res}	f = 1 Mhz	0	30		25		158		pF
Gate charge	Q_g		15	400	100	25		282		nC
Thermal										
Thermal resistance junction to sink (2)	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,73		K/W
Dynamic										
Turn-on delay time	$t_{d(on)}$	R_{gon} = 16 Ω R_{goff} = 16 Ω	-5/15	600	70	25 125 150		113,12 106,88 105,28		ns
Rise time	t_r	R_{gon} = 16 Ω R_{goff} = 16 Ω	-5/15	600	70	25 125 150		20,64 21,12 21,12		ns
Turn-off delay time	$t_{d(off)}$	R_{gon} = 16 Ω R_{goff} = 16 Ω	-5/15	600	70	25 125 150		327,52 355,68 363,84		ns
Fall time	t_f	R_{gon} = 16 Ω R_{goff} = 16 Ω	-5/15	600	70	25 125 150		6,58 29,31 35,84		ns
Turn-on energy (per pulse)	E_{on}	Q_{rFWD}=2,25 µC Q_{rFWD}=4,13 µC Q_{rFWD}=4,91 µC	-5/15	600	70	25 125 150		2,54 3,32 3,6		mWs
Turn-off energy (per pulse)	E_{off}		-5/15	600	70	25 125 150		2,07 2,5 2,65		mWs

Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	
AC 2 Diode H										
Static										
Forward voltage	V_F				100	25 125 150		1,5 1,57 1,54	1,9(1)	V
Reverse leakage current	I_R	V_r = 650 V				25			20	µA
Thermal										
Thermal resistance junction to sink (2)	$R_{th(j-s)}$	λ_{paste} = 3,4 W/mK (PSX)						0,92		K/W
Dynamic										
Peak recovery current	I_{RRM}	di/dt=3999 A/µs di/dt=3924 A/µs di/dt=3777 A/µs	-5/15	600	70	25 125 150		79,53 95,04 100,2		A
Reverse recovery time	t_{rr}					25 125 150		67,91 89,42 95,11		ns
Recovered charge	Q_r					25 125 150		2,25 4,13 4,91		µC
Reverse recovered energy	E_{rec}					25 125 150		0,576 1,17 1,43		mWs
Peak rate of fall of recovery current	$(di_{rf}/dt)_{max}$					25 125 150		4919 2743 1906		A/µs

Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	
Flying Capacitor										
Static										
Capacitance	C	DC bias voltage = 0 V				25		100		nF
Tolerance							-10		10	%
Thermistor										
Static										
Rated resistance	R					25		22		kΩ
Deviation of R_{100}	$\Delta_{R/R}$	R_{100} = 1484 Ω				100	-5		5	%
Power dissipation	P							5		mW
Power dissipation constant	d					25		1,5		mW/K
B-value	$B_{(25/50)}$	Tol. ±1 %						3962		K
B-value	$B_{(25/100)}$	Tol. ±1 %						4000		K
Vincotech Thermistor Reference									I	

(1) Value at chip level

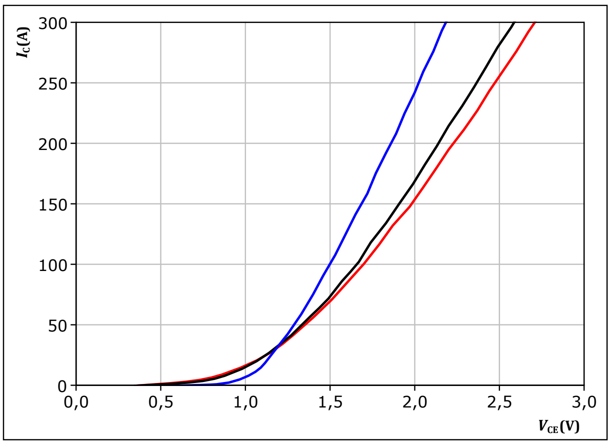
(2) Only valid with pre-applied Vincotech thermal interface material.

AC 1 Switch L Characteristics

figure 1. **IGBT**

Typical output characteristics

I_C = f(V_{CE})

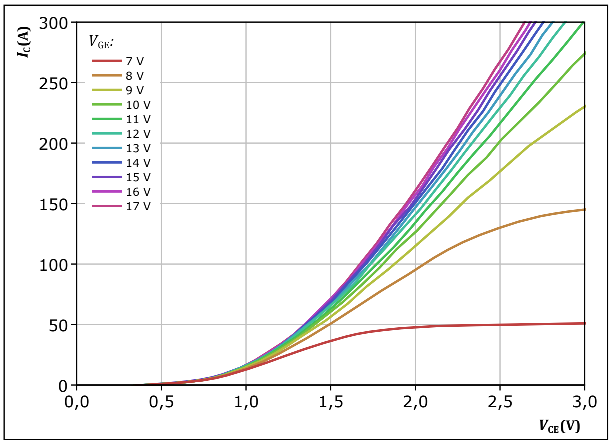


t_p = 250 μs
V_{GE} = 15 V
T_j: 25 °C, 125 °C, 150 °C

figure 2. **IGBT**

Typical output characteristics

I_C = f(V_{CE})

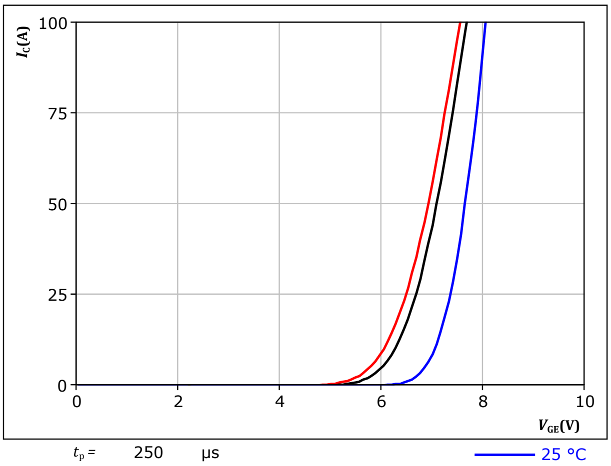


t_p = 250 μs
T_j = 150 °C
V_{GE} from 7 V to 17 V in steps of 1 V

figure 3. **IGBT**

Typical transfer characteristics

I_C = f(V_{GE})

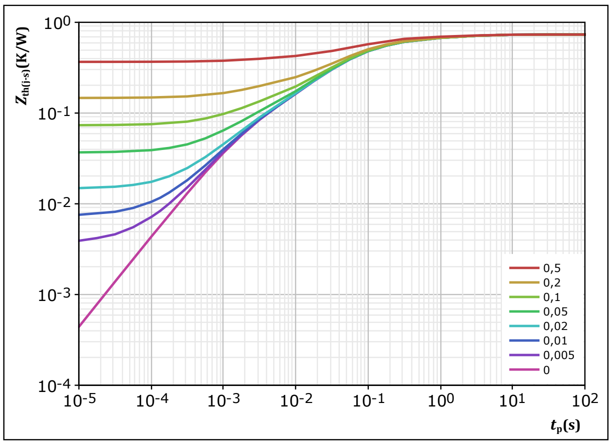


t_p = 250 μs
V_{CE} = 10 V
T_j: 25 °C, 125 °C, 150 °C

figure 4. **IGBT**

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)}$ = f(t_p)



D = t_p / T
$R_{th(j-s)}$ = 0,733 K/W

IGBT thermal model values

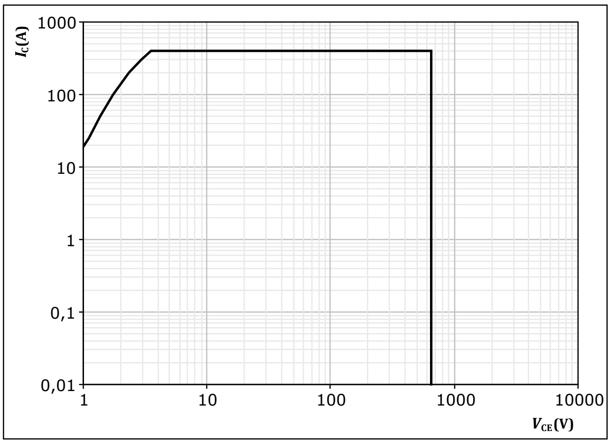
R (K/W)	τ (s)
6,27E-02	3,01E+00
1,24E-01	4,67E-01
3,66E-01	7,22E-02
1,28E-01	1,58E-02
5,34E-02	1,74E-03

AC 1 Switch L Characteristics

figure 5.	IGBT

Safe operating area

I_C = f(V_{CE})



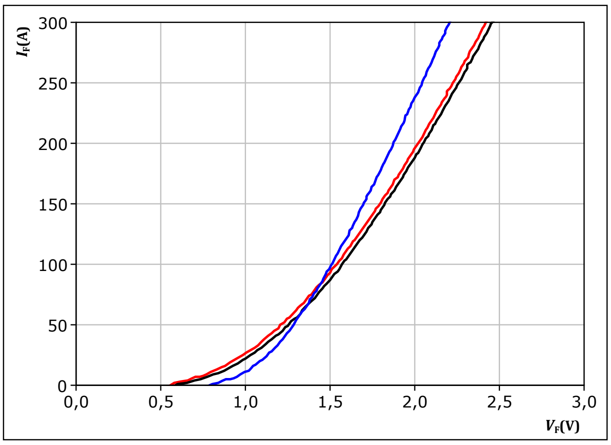
D =	single pulse	
T_s =	80	°C
V_{GE} =	15	V
T_j =	T_{jmax}	

AC 1 Diode L Characteristics

figure 6. **FWD**

Typical forward characteristics

I_F = f(V_F)



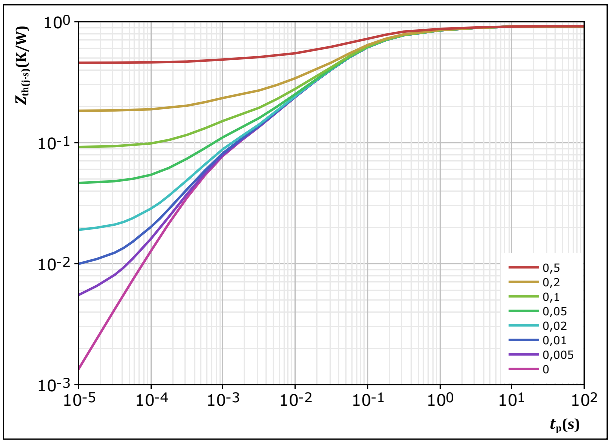
t_p = 250 µs

T_j: 25 °C, 125 °C, 150 °C

figure 7. **FWD**

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)}$ = f(t_p)



D = t_p / T

$R_{th(j-s)}$ = 0,916 K/W

FWD thermal model values

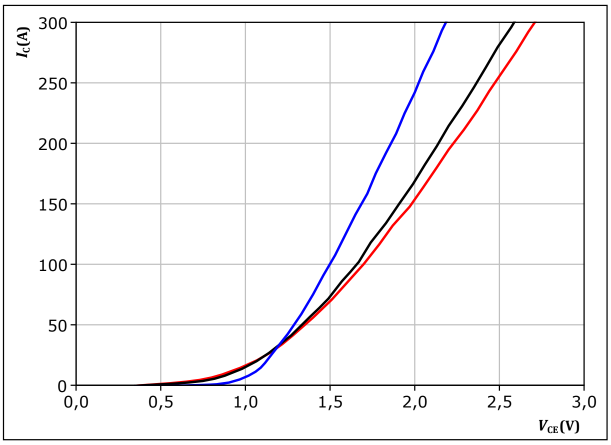
R (K/W)	τ (s)
7,07E-02	3,18E+00
1,48E-01	4,44E-01
4,69E-01	7,12E-02
1,61E-01	9,29E-03
6,79E-02	6,09E-04

AC 1 Switch H Characteristics

figure 8. **IGBT**

Typical output characteristics

I_C = f(V_{CE})

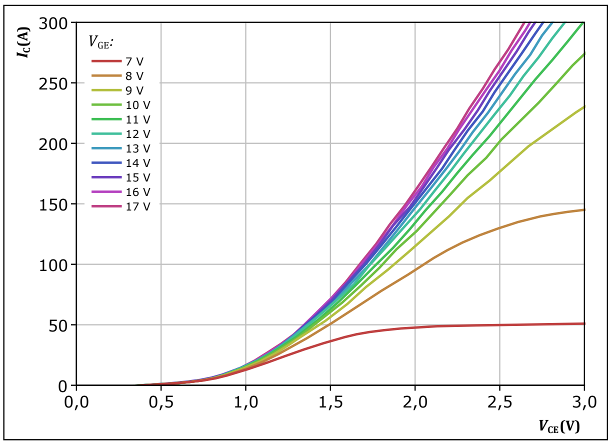


t_p =	250	µs		25 °C
V_{GE} =	15	V	T_j:	125 °C
				150 °C

figure 9. **IGBT**

Typical output characteristics

I_C = f(V_{CE})



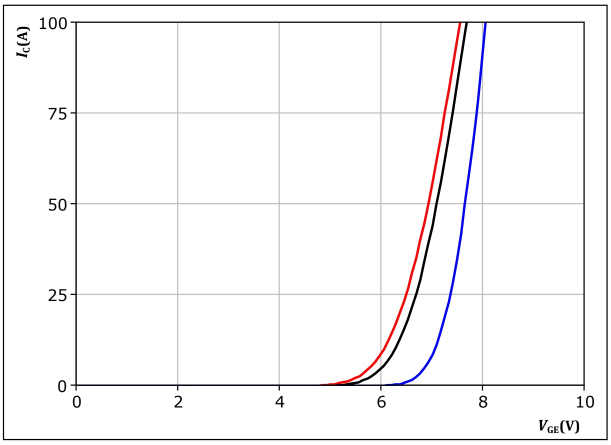
t_p =	250	µs
T_j =	150	°C

V_{GE} from 7 V to 17 V in steps of 1 V

figure 10. **IGBT**

Typical transfer characteristics

I_C = f(V_{GE})

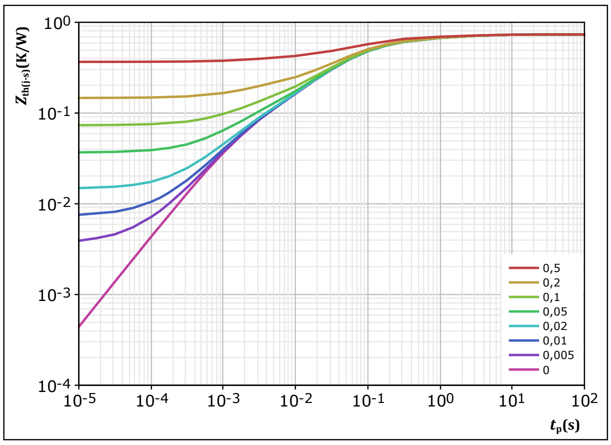


t_p =	250	µs		25 °C
V_{CE} =	10	V	T_j:	125 °C
				150 °C

figure 11. **IGBT**

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)}$ = f(t_p)



D =	t_p / T	
$R_{th(j-s)}$ =	0,733	K/W

IGBT thermal model values

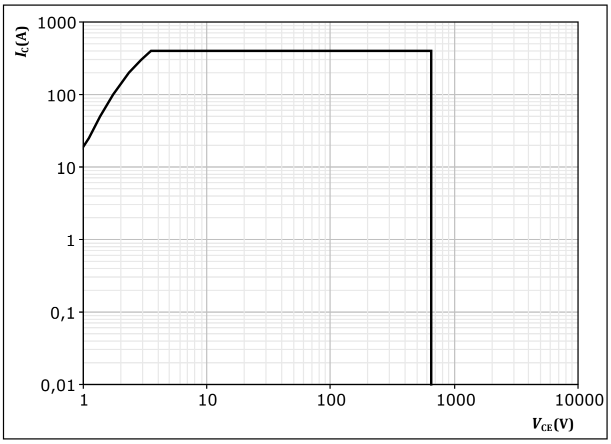
R (K/W)	τ (s)
6,27E-02	3,01E+00
1,24E-01	4,67E-01
3,66E-01	7,22E-02
1,28E-01	1,58E-02
5,34E-02	1,74E-03

AC 1 Switch H Characteristics

figure 12. **IGBT**

Safe operating area

I_C = f(V_{CE})



D = single pulse

T_s = 80 °C

V_{GE} = 15 V

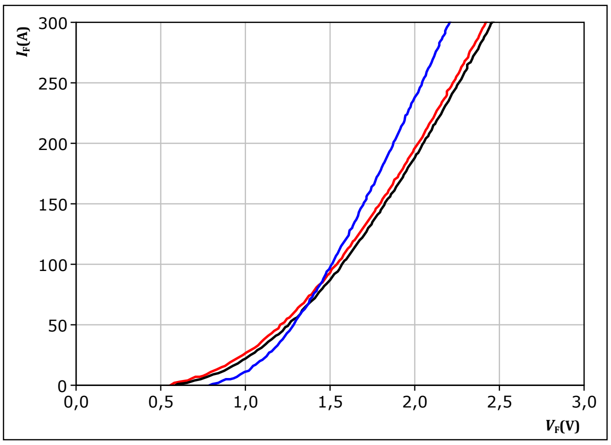
T_j = T_{jmax}

AC 1 Diode H Characteristics

figure 13. FWD

Typical forward characteristics

I_F = f(V_F)



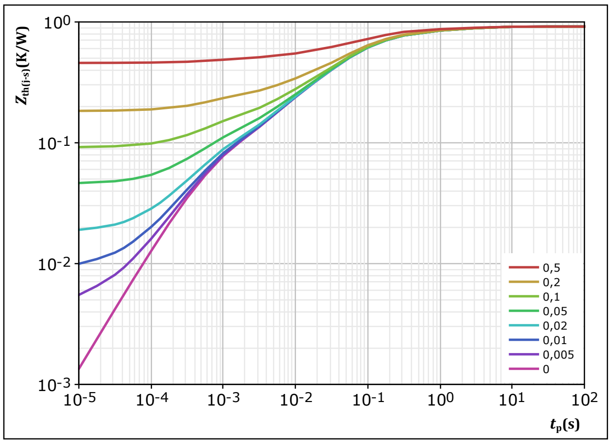
t_p = 250 µs

T_j: 25 °C, 125 °C, 150 °C

figure 14. FWD

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)}$ = f(t_p)



D = t_p / T

$R_{th(j-s)}$ = 0,916 K/W

FWD thermal model values

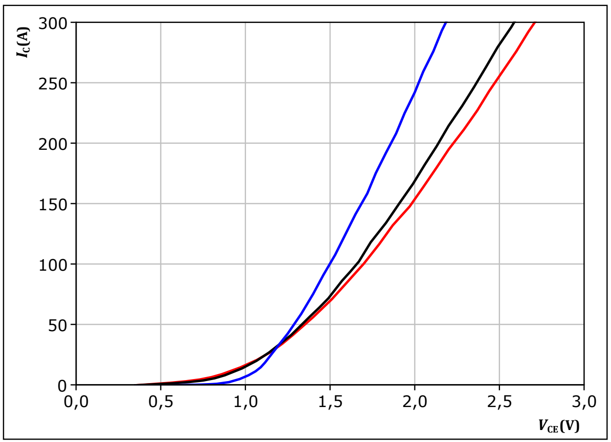
R (K/W)	τ (s)
7,07E-02	3,18E+00
1,48E-01	4,44E-01
4,69E-01	7,12E-02
1,61E-01	9,29E-03
6,79E-02	6,09E-04

AC 2 Switch L Characteristics

figure 15. IGBT

Typical output characteristics

$I_C = f(V_{CE})$

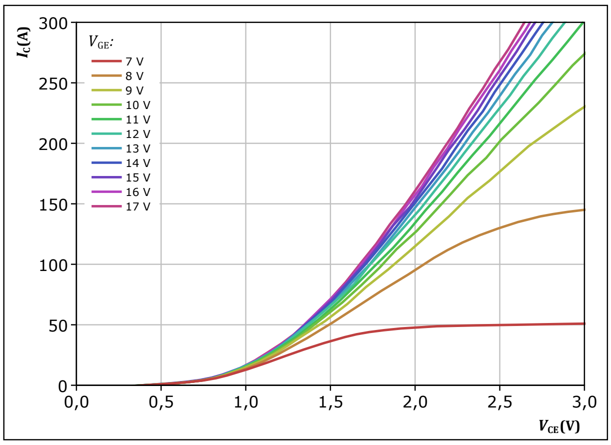


t_p = 250 µs
V_{GE} = 15 V
T_j: 25 °C, 125 °C, 150 °C

figure 16. IGBT

Typical output characteristics

$I_C = f(V_{CE})$

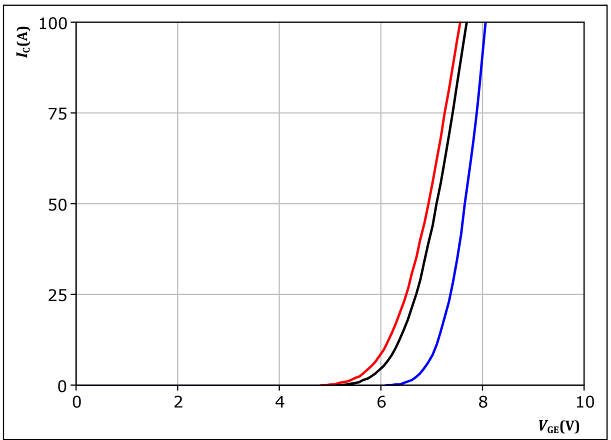


t_p = 250 µs
T_j = 150 °C
V_{GE} from 7 V to 17 V in steps of 1 V

figure 17. IGBT

Typical transfer characteristics

$I_C = f(V_{GE})$

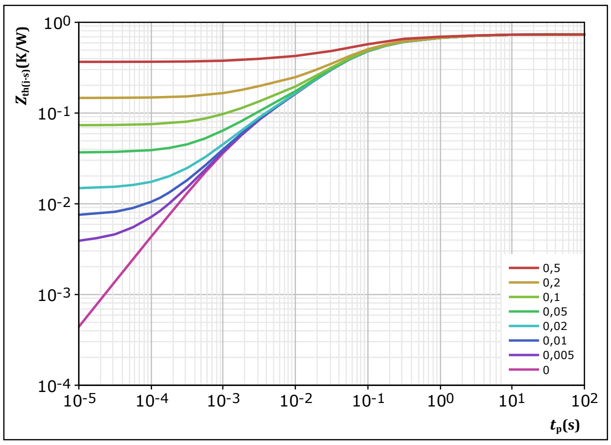


t_p = 250 µs
V_{CE} = 10 V
T_j: 25 °C, 125 °C, 150 °C

figure 18. IGBT

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)} = f(t_p)$



$D = t_p / T$
$R_{th(j-s)}$ = 0,733 K/W

IGBT thermal model values

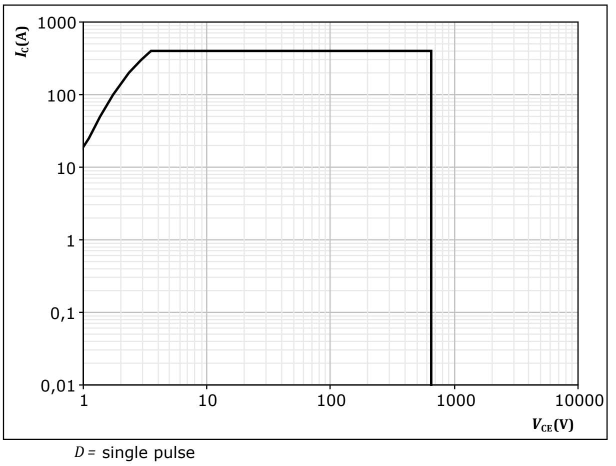
R (K/W)	τ (s)
6,27E-02	3,01E+00
1,24E-01	4,67E-01
3,66E-01	7,22E-02
1,28E-01	1,58E-02
5,34E-02	1,74E-03

AC 2 Switch L Characteristics

figure 19.	IGBT

Safe operating area

I_C = f(V_{CE})



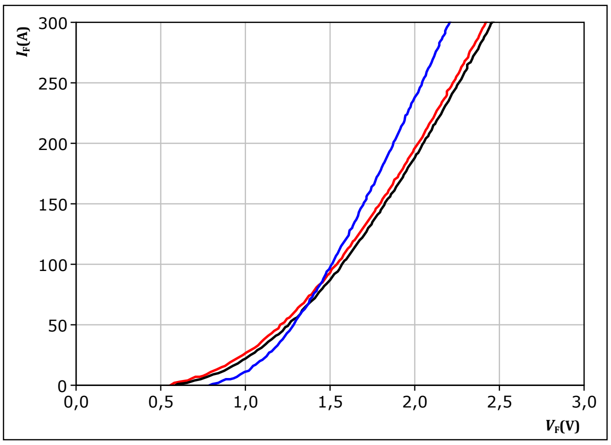
D =	single pulse	
T_s =	80	°C
V_{GE} =	15	V
T_j =	T_{jmax}	

AC 2 Diode L Characteristics

figure 20. **FWD**

Typical forward characteristics

$I_F = f(V_F)$



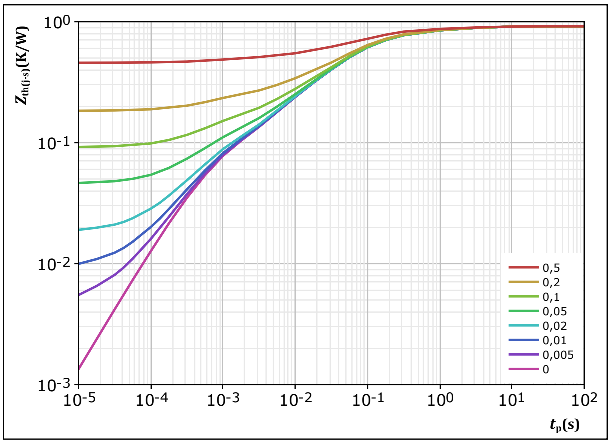
t_p = 250 µs

T_j: 25 °C, 125 °C, 150 °C

figure 21. **FWD**

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)} = f(t_p)$



D = t_p / T

$R_{th(j-s)}$ = 0,916 K/W

FWD thermal model values

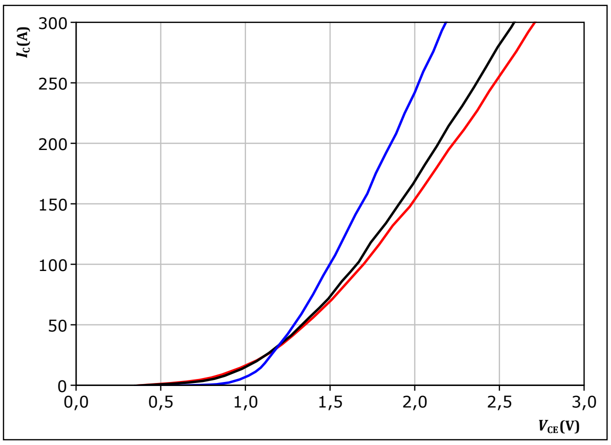
R (K/W)	τ (s)
7,07E-02	3,18E+00
1,48E-01	4,44E-01
4,69E-01	7,12E-02
1,61E-01	9,29E-03
6,79E-02	6,09E-04

AC 2 Switch H Characteristics

figure 22. **IGBT**

Typical output characteristics

I_C = f(V_{CE})

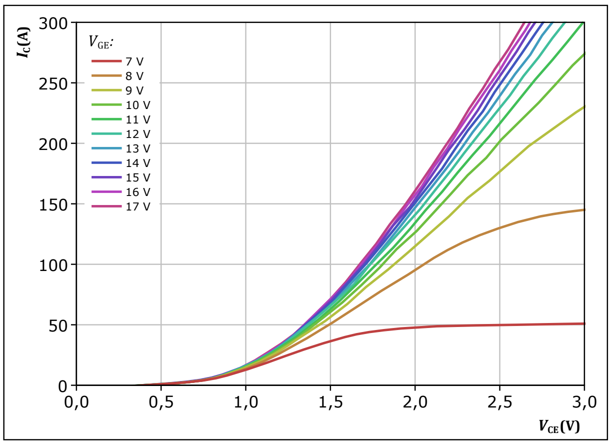


t_p = 250 µs
V_{GE} = 15 V
T_j: 25 °C, 125 °C, 150 °C

figure 23. **IGBT**

Typical output characteristics

I_C = f(V_{CE})

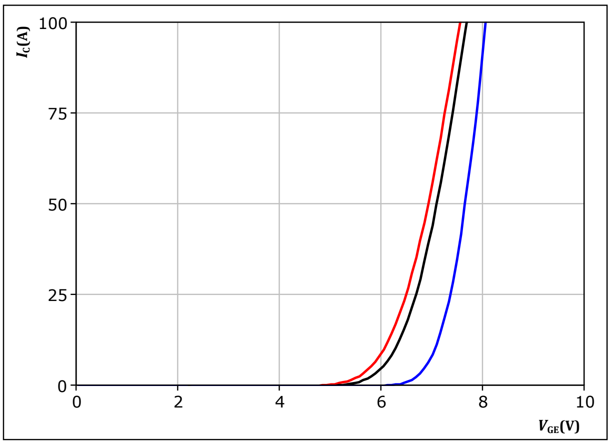


t_p = 250 µs
T_j = 150 °C
V_{GE} from 7 V to 17 V in steps of 1 V

figure 24. **IGBT**

Typical transfer characteristics

I_C = f(V_{GE})

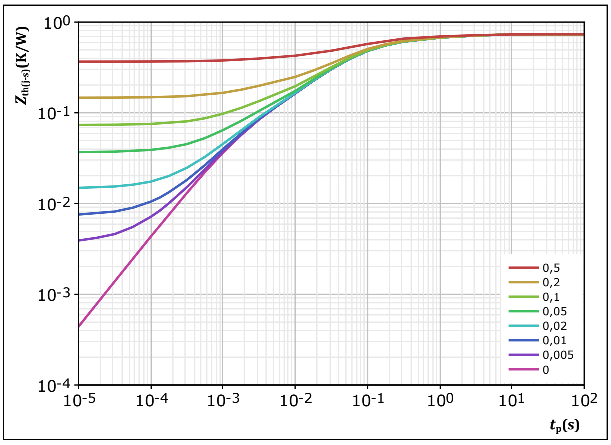


t_p = 250 µs
V_{CE} = 10 V
T_j: 25 °C, 125 °C, 150 °C

figure 25. **IGBT**

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)}$ = f(t_p)



D = t_p / T
$R_{th(j-s)}$ = 0,733 K/W

IGBT thermal model values

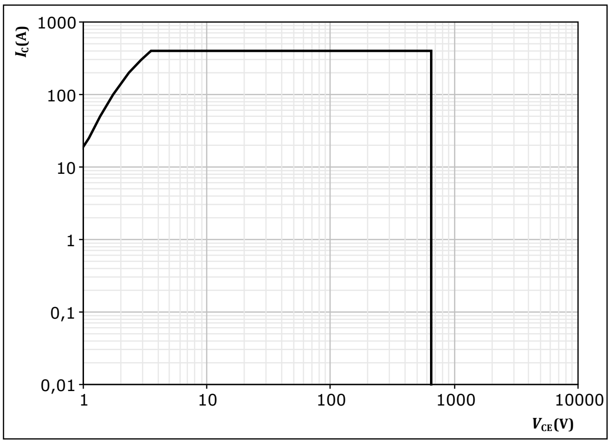
R (K/W)	τ (s)
6,27E-02	3,01E+00
1,24E-01	4,67E-01
3,66E-01	7,22E-02
1,28E-01	1,58E-02
5,34E-02	1,74E-03

AC 2 Switch H Characteristics

figure 26.	IGBT

Safe operating area

$I_C = f(V_{CE})$



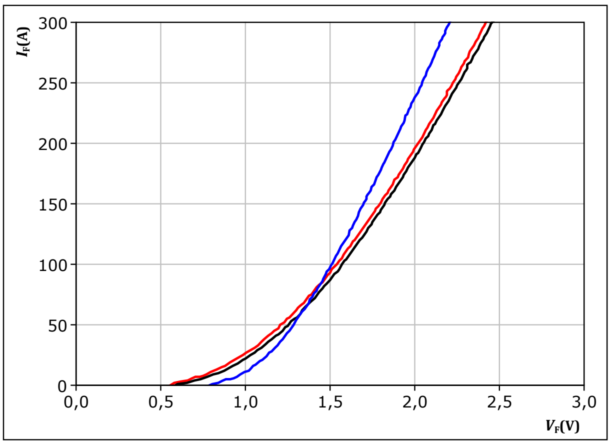
D =	single pulse	
T_s =	80	°C
V_{GE} =	15	V
T_j =	T_{jmax}	

AC 2 Diode H Characteristics

figure 27. **FWD**

Typical forward characteristics

I_F = f(V_F)



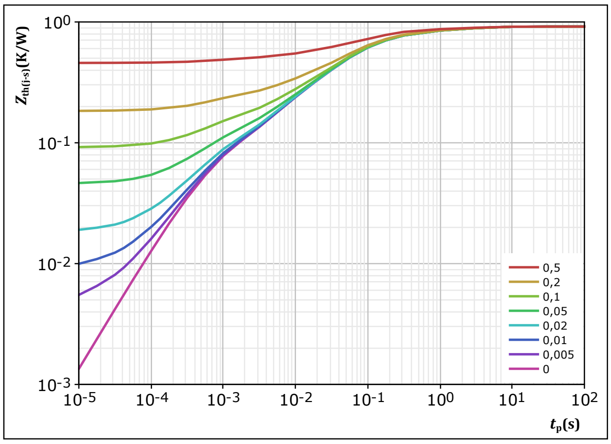
t_p = 250 µs

T_j: 25 °C, 125 °C, 150 °C

figure 28. **FWD**

Transient thermal impedance as a function of pulse width

$Z_{th(j-s)}$ = f(t_p)



D = t_p / T

$R_{th(j-s)}$ = 0,916 K/W

FWD thermal model values

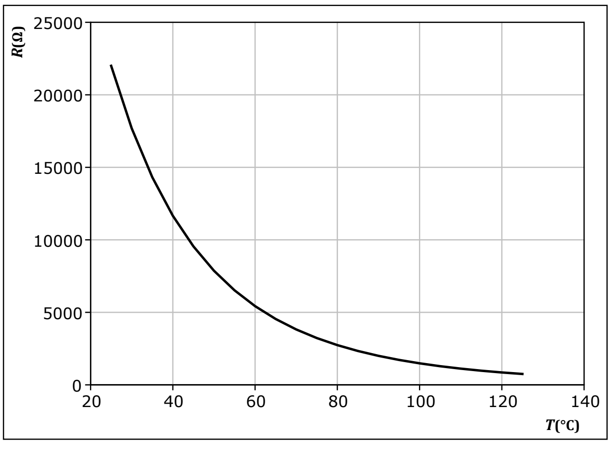
R (K/W)	τ (s)
7,07E-02	3,18E+00
1,48E-01	4,44E-01
4,69E-01	7,12E-02
1,61E-01	9,29E-03
6,79E-02	6,09E-04

Thermistor Characteristics

figure 29.	Thermistor

Typical NTC characteristic as function of temperature

R_T = f(T)

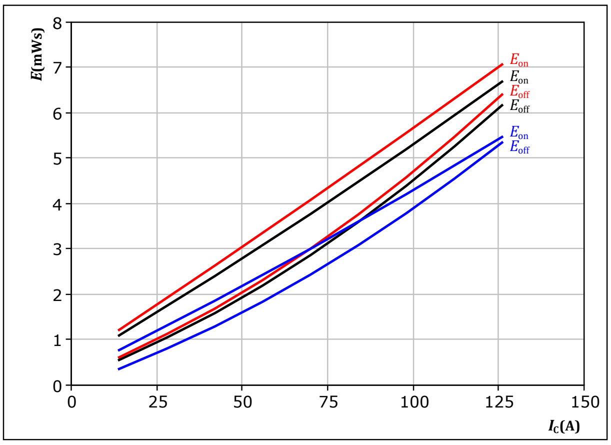


AC 1 Switching Characteristics L

figure 30. **IGBT**

Typical switching energy losses as a function of collector current

$E = f(I_C)$



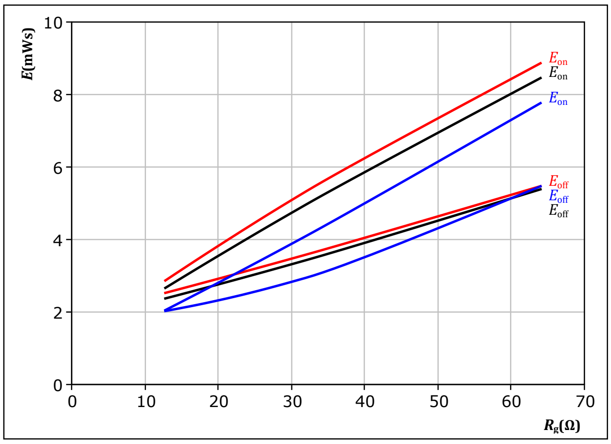
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C
R_{goff} =	21,3	Ω		

figure 31. **IGBT**

Typical switching energy losses as a function of gate resistor

$E = f(R_g)$



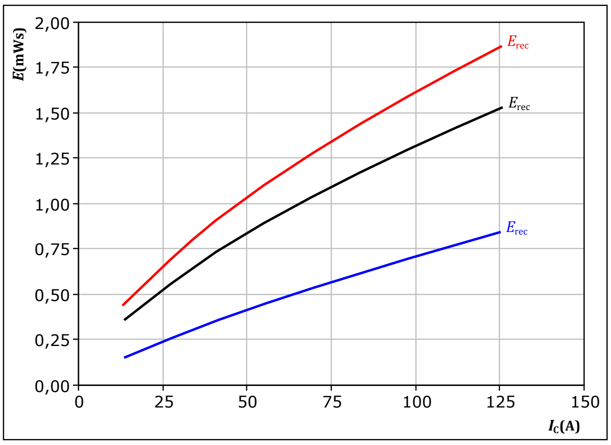
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 32. **FWD**

Typical reverse recovered energy loss as a function of collector current

$E_{rec} = f(I_C)$



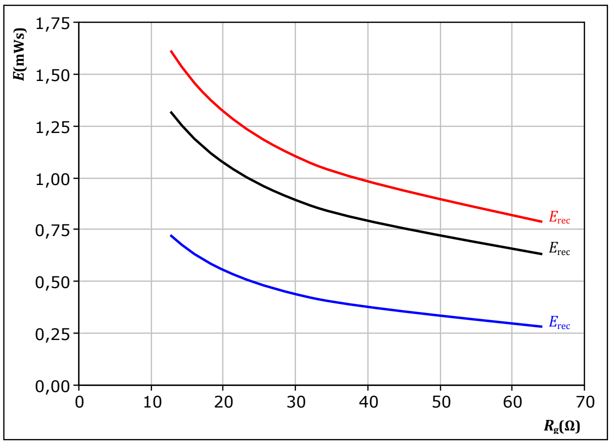
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 33. **FWD**

Typical reverse recovered energy loss as a function of gate resistor

$E_{rec} = f(R_g)$



With an inductive load at

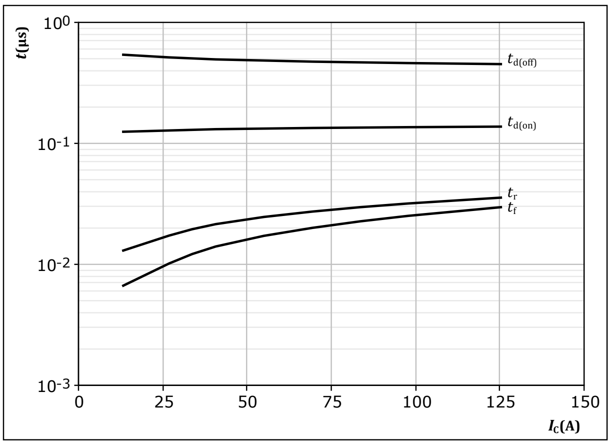
V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

AC 1 Switching Characteristics L

figure 34. **IGBT**

Typical switching times as a function of collector current

$t = f(I_C)$



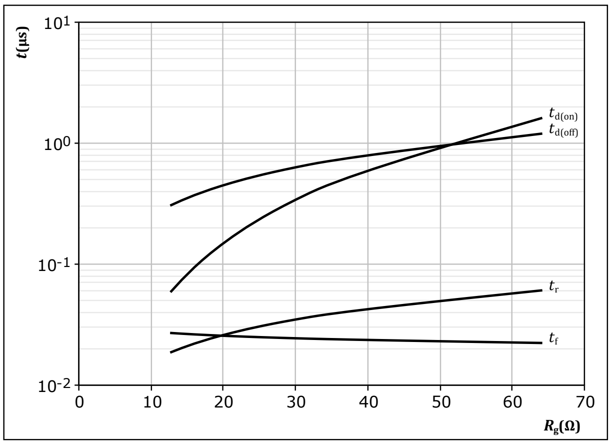
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	21,3	Ω
R_{goff} =	21,3	Ω

figure 35. **IGBT**

Typical switching times as a function of gate resistor

$t = f(R_g)$



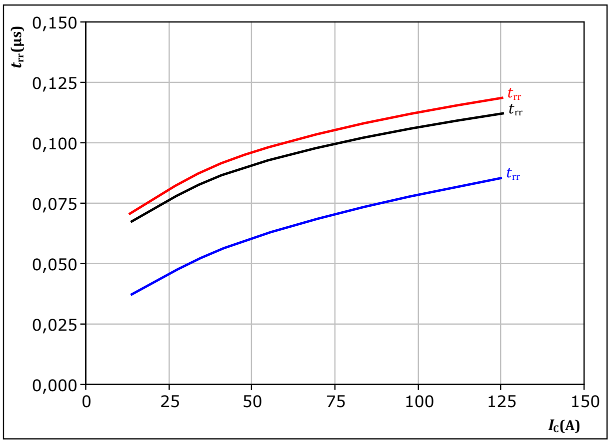
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

figure 36. **FWD**

Typical reverse recovery time as a function of collector current

$t_{rr} = f(I_C)$



With an inductive load at

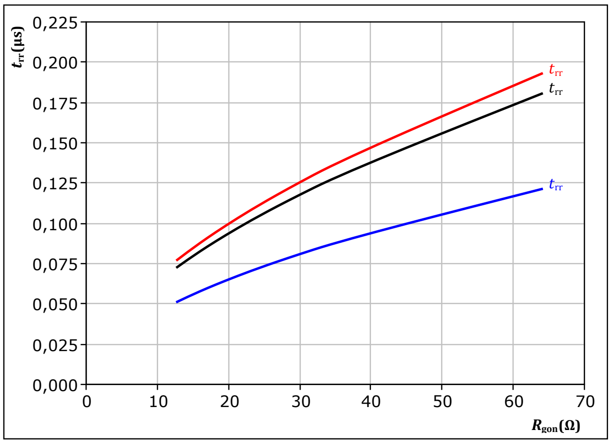
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	21,3	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 37. **FWD**

Typical reverse recovery time as a function of IGBT turn on gate resistor

$t_{rr} = f(R_{gon})$



With an inductive load at

V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

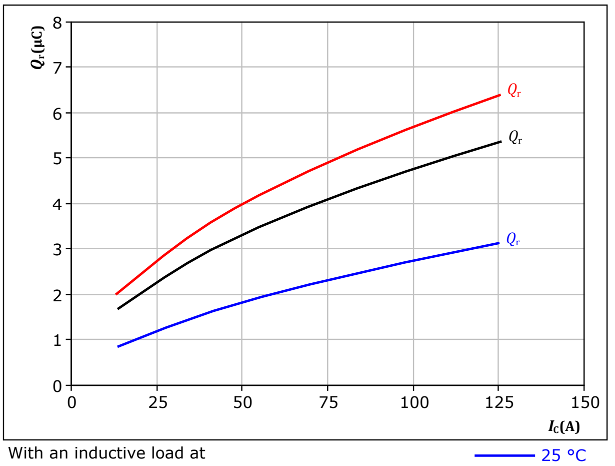
T_j: 25 °C, 125 °C, 150 °C

AC 1 Switching Characteristics L

figure 38. FWD

Typical recovered charge as a function of collector current

$Q_r = f(I_C)$



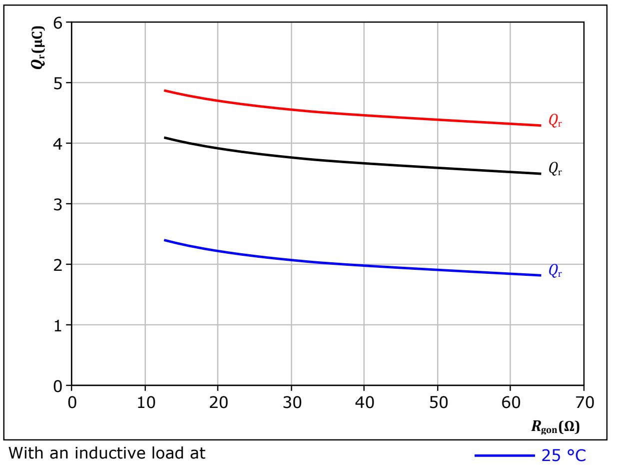
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 39. FWD

Typical recovered charge as a function of turn on gate resistor

$Q_r = f(R_{gon})$



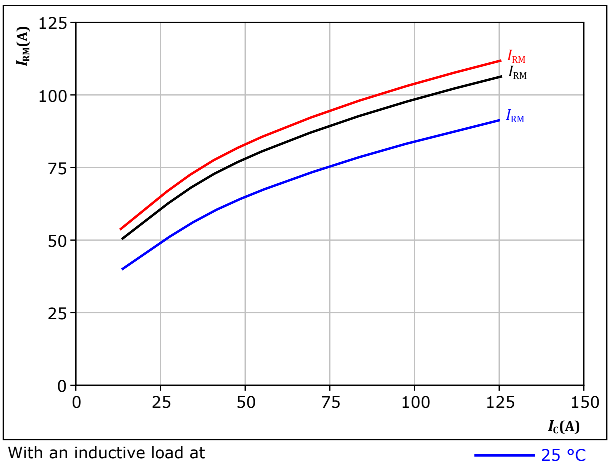
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 40. FWD

Typical peak reverse recovery current as a function of collector current

$I_{RM} = f(I_C)$



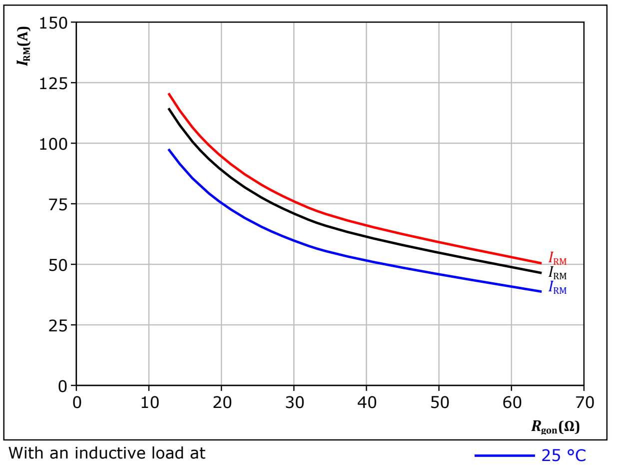
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 41. FWD

Typical peak reverse recovery current as a function of turn on gate resistor

$I_{RM} = f(R_{gon})$



With an inductive load at

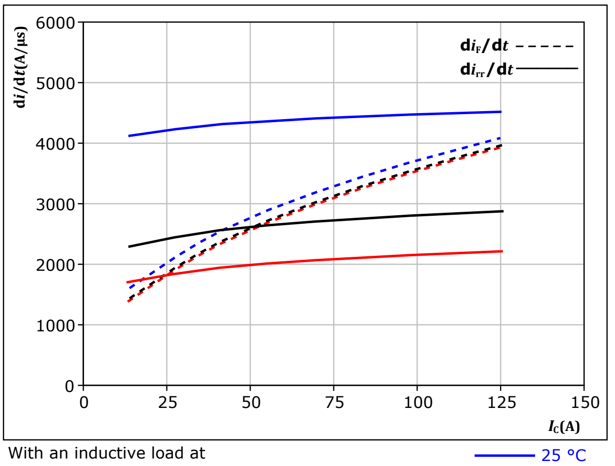
V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

AC 1 Switching Characteristics L

figure 42. **FWD**

Typical rate of fall of forward and reverse recovery current as a function of collector current

di_F/dt, di_{rr}/dt = f(I_C)



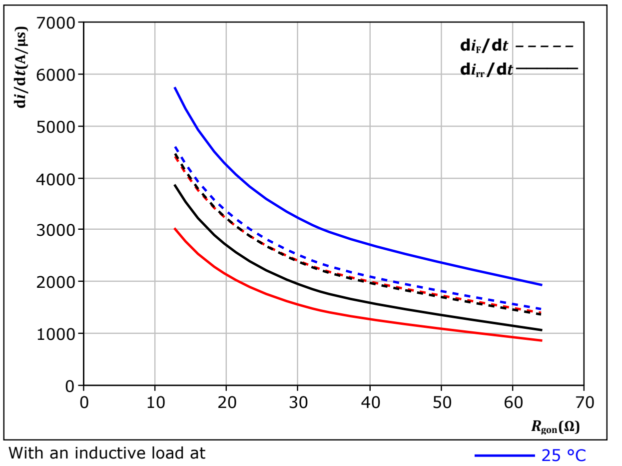
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 43. **FWD**

Typical rate of fall of forward and reverse recovery current as a function of turn on gate resistor

di_F/dt, di_{rr}/dt = f(R_{gon})



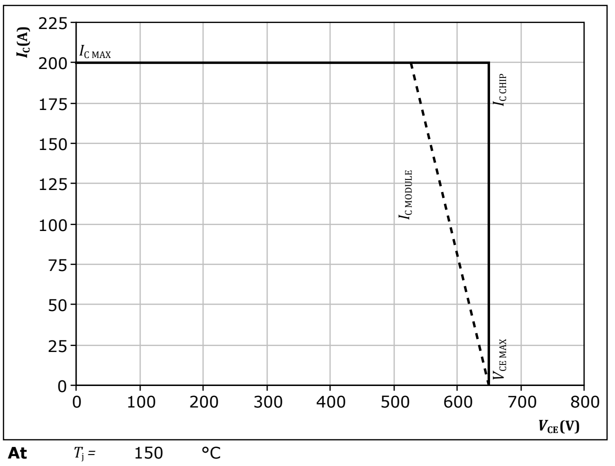
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 44. **IGBT**

Reverse bias safe operating area

I_C = f(V_{CE})



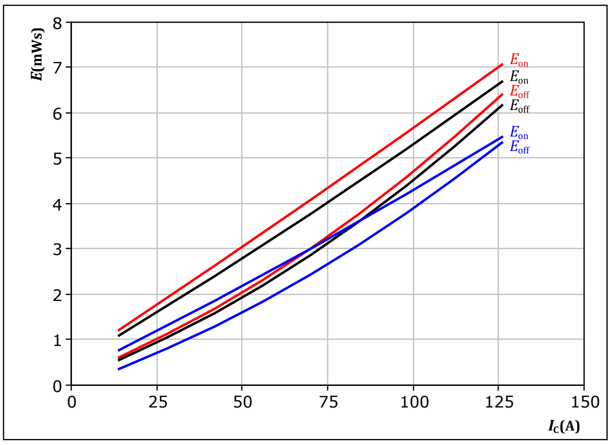
At	T_j =	150	°C
	R_{gon} =	21,3	Ω
	R_{goff} =	21,3	Ω

AC 1 Switching Characteristics H

figure 45. **IGBT**

Typical switching energy losses as a function of collector current

$E = f(I_C)$



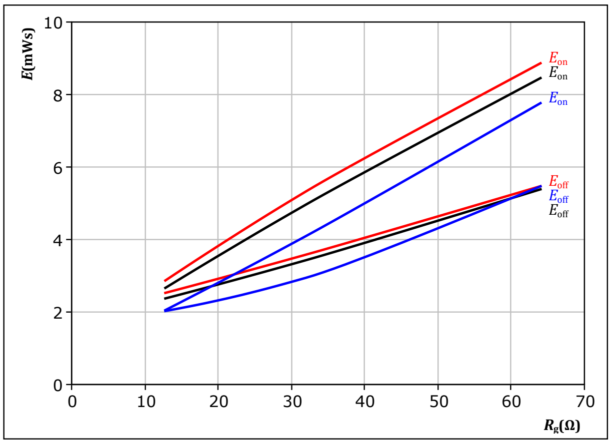
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C
R_{goff} =	21,3	Ω		

figure 46. **IGBT**

Typical switching energy losses as a function of gate resistor

$E = f(R_g)$



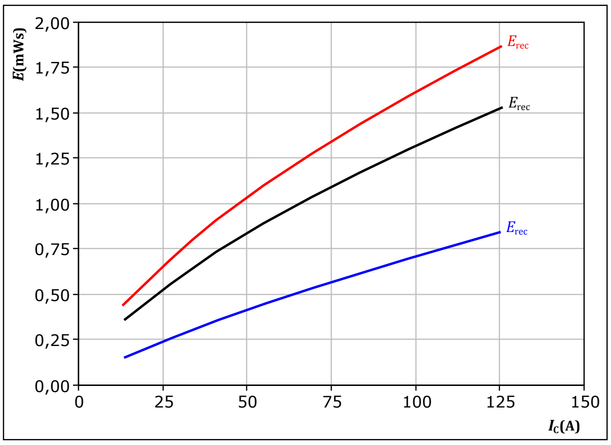
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 47. **FWD**

Typical reverse recovered energy loss as a function of collector current

$E_{rec} = f(I_C)$



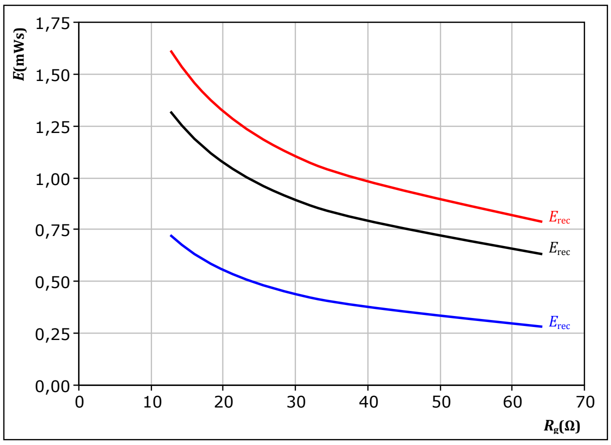
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 48. **FWD**

Typical reverse recovered energy loss as a function of gate resistor

$E_{rec} = f(R_g)$



With an inductive load at

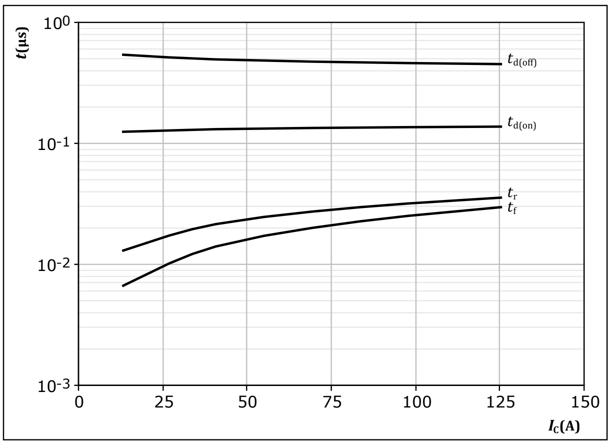
V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

AC 1 Switching Characteristics H

figure 49. **IGBT**

Typical switching times as a function of collector current

t = f(I_C)



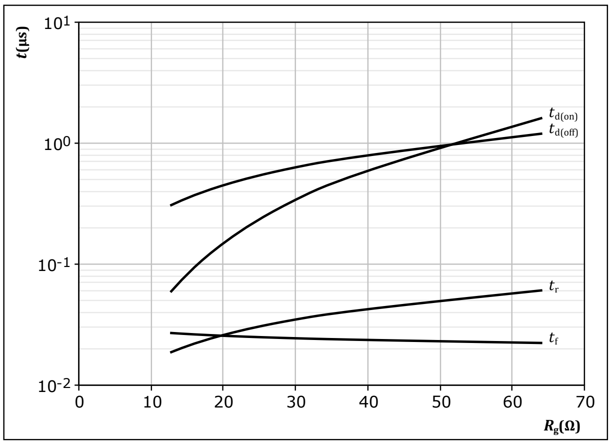
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	21,3	Ω
R_{goff} =	21,3	Ω

figure 50. **IGBT**

Typical switching times as a function of gate resistor

t = f(R_g)



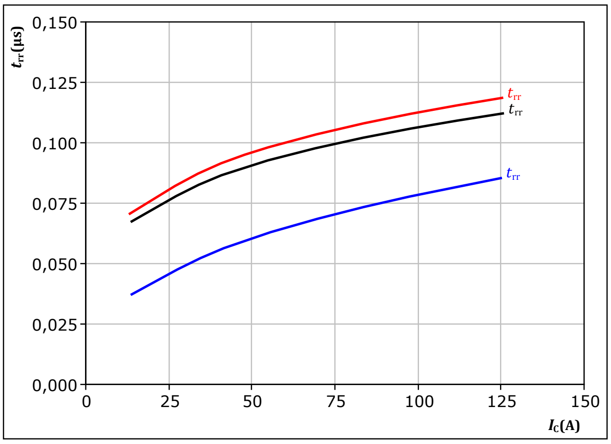
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

figure 51. **FWD**

Typical reverse recovery time as a function of collector current

t_{rr} = f(I_C)



With an inductive load at

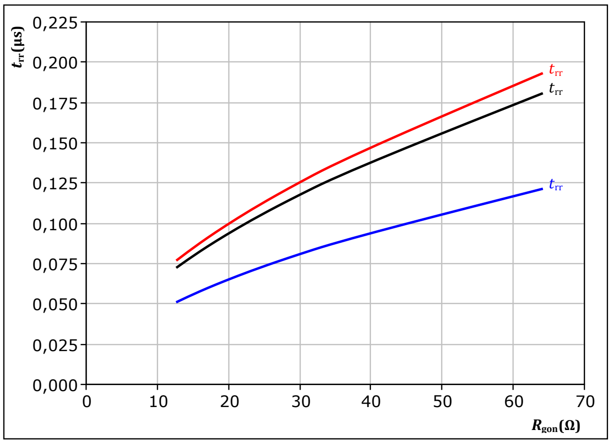
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	21,3	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 52. **FWD**

Typical reverse recovery time as a function of IGBT turn on gate resistor

t_{rr} = f(R_{gon})



With an inductive load at

V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

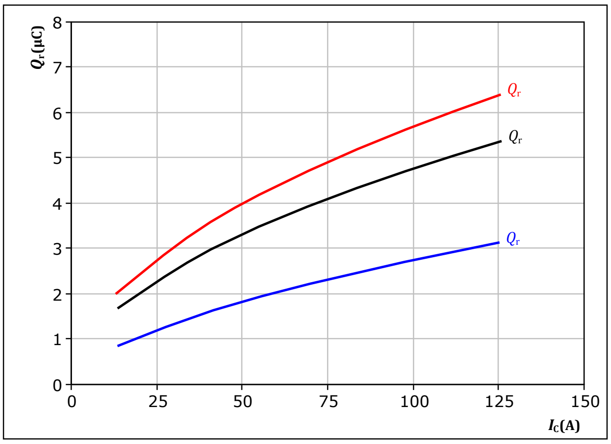
T_j: 25 °C, 125 °C, 150 °C

AC 1 Switching Characteristics H

figure 53. **FWD**

Typical recovered charge as a function of collector current

$Q_r = f(I_C)$



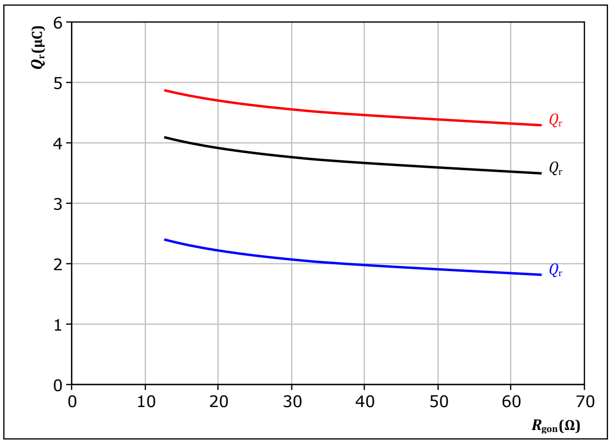
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 54. **FWD**

Typical recovered charge as a function of turn on gate resistor

$Q_r = f(R_{gon})$



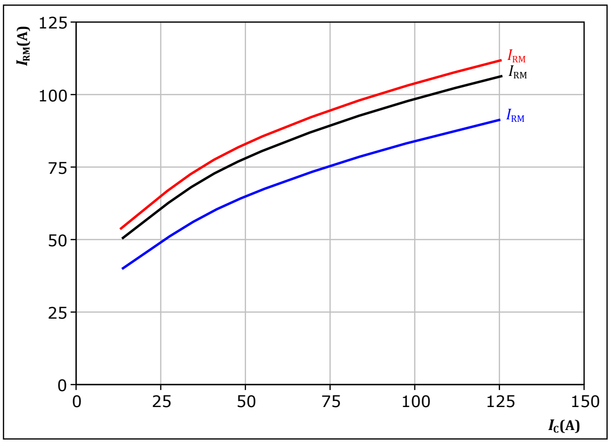
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 55. **FWD**

Typical peak reverse recovery current as a function of collector current

$I_{RM} = f(I_C)$



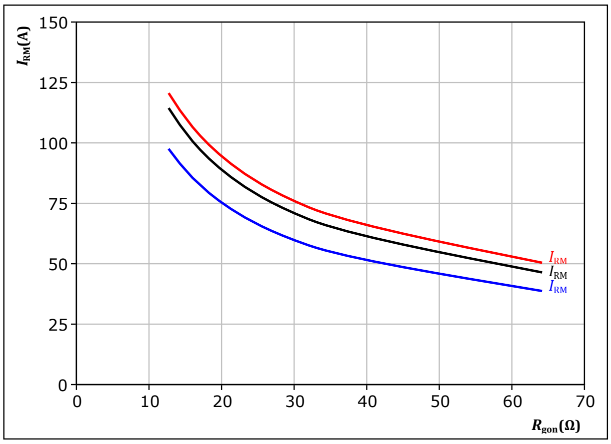
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 56. **FWD**

Typical peak reverse recovery current as a function of turn on gate resistor

$I_{RM} = f(R_{gon})$



With an inductive load at

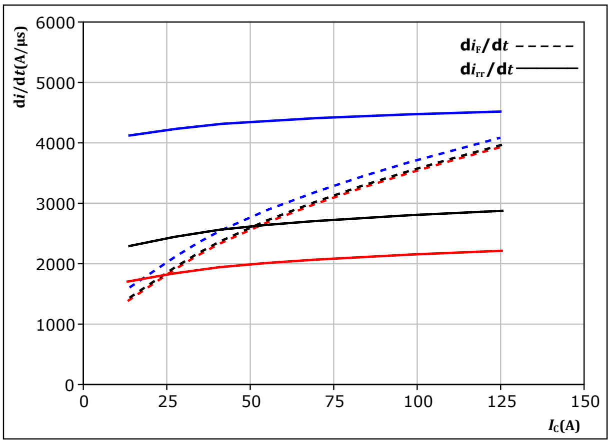
V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

AC 1 Switching Characteristics H

figure 57. FWD

Typical rate of fall of forward and reverse recovery current as a function of collector current

di_F/dt, di_{rr}/dt = f(I_C)



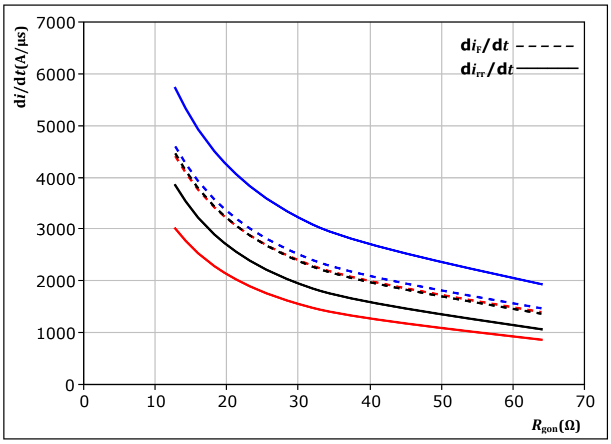
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	21,3	Ω		150 °C

figure 58. FWD

Typical rate of fall of forward and reverse recovery current as a function of turn on gate resistor

di_F/dt, di_{rr}/dt = f(R_{gon})



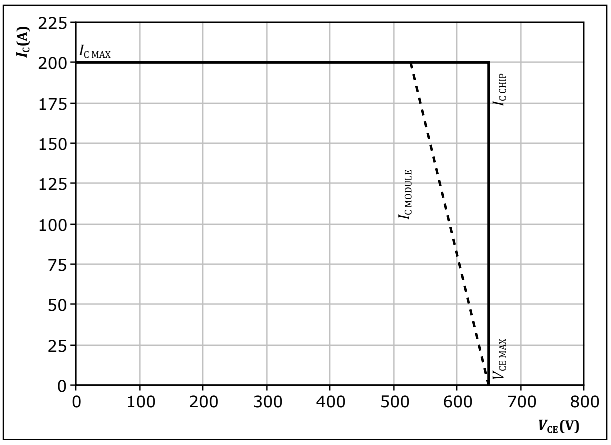
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 59. IGBT

Reverse bias safe operating area

I_C = f(V_{CE})



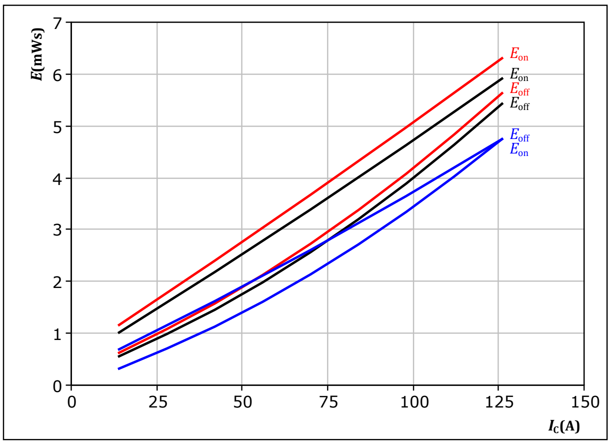
At	T_j =	150	°C
	R_{gon} =	21,3	Ω
	R_{goff} =	21,3	Ω

AC 2 Switching Characteristics L

figure 60. IGBT

Typical switching energy losses as a function of collector current

$E = f(I_C)$



With an inductive load at

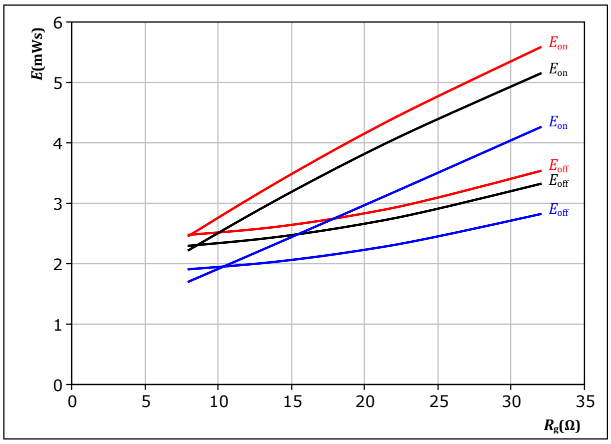
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	16	Ω
R_{goff} =	16	Ω

T_j: 25 °C (blue), 125 °C (black), 150 °C (red)

figure 61. IGBT

Typical switching energy losses as a function of gate resistor

$E = f(R_g)$



With an inductive load at

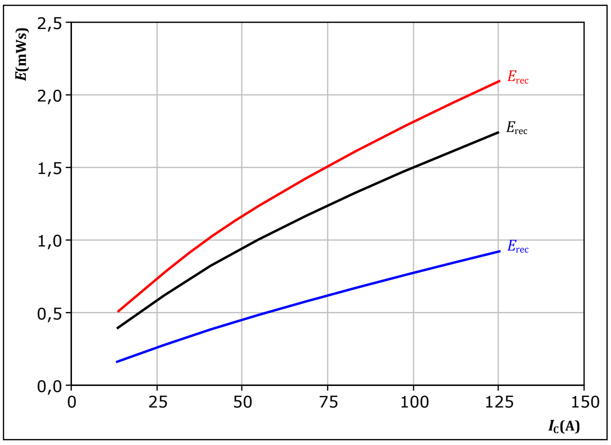
V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

T_j: 25 °C (blue), 125 °C (black), 150 °C (red)

figure 62. FWD

Typical reverse recovered energy loss as a function of collector current

$E_{rec} = f(I_C)$



With an inductive load at

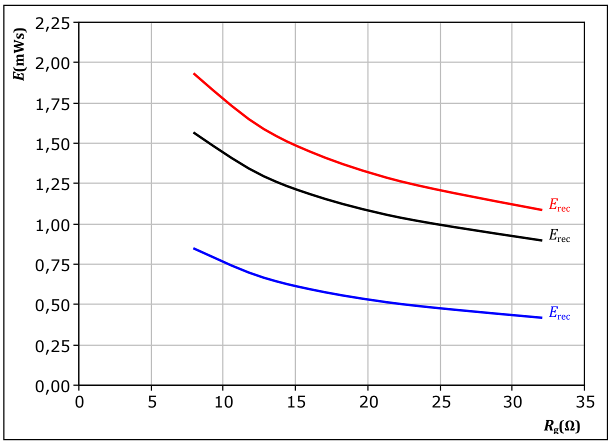
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	16	Ω

T_j: 25 °C (blue), 125 °C (black), 150 °C (red)

figure 63. FWD

Typical reverse recovered energy loss as a function of gate resistor

$E_{rec} = f(R_g)$



With an inductive load at

V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

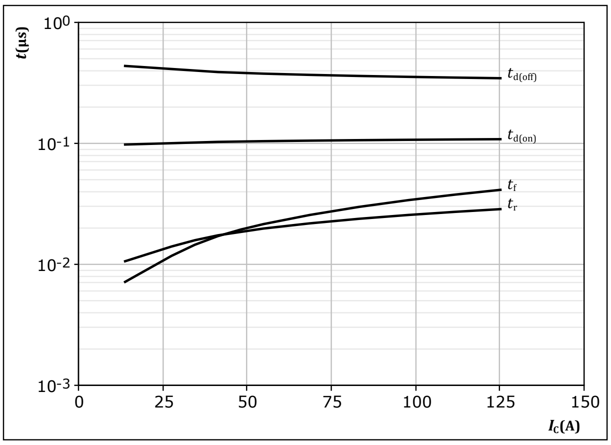
T_j: 25 °C (blue), 125 °C (black), 150 °C (red)

AC 2 Switching Characteristics L

figure 64. IGBT

Typical switching times as a function of collector current

$t = f(I_C)$



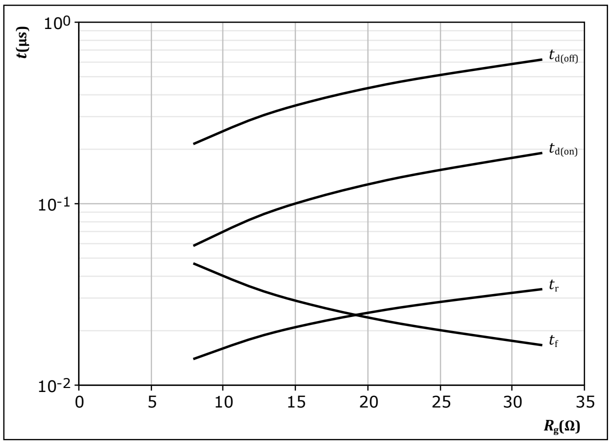
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	16	Ω
R_{goff} =	16	Ω

figure 65. IGBT

Typical switching times as a function of gate resistor

$t = f(R_g)$



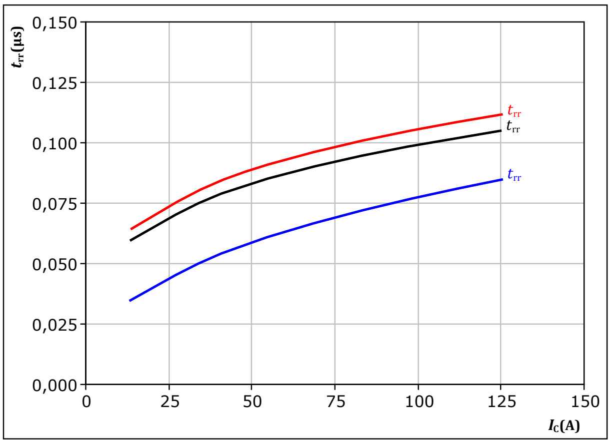
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

figure 66. FWD

Typical reverse recovery time as a function of collector current

$t_{rr} = f(I_C)$



With an inductive load at

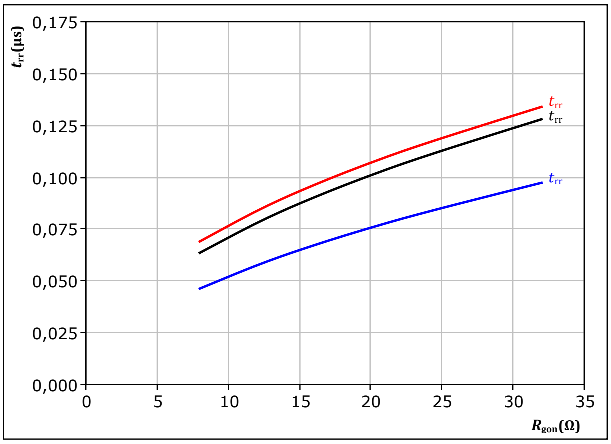
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	16	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 67. FWD

Typical reverse recovery time as a function of IGBT turn on gate resistor

$t_{rr} = f(R_{gon})$



With an inductive load at

V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

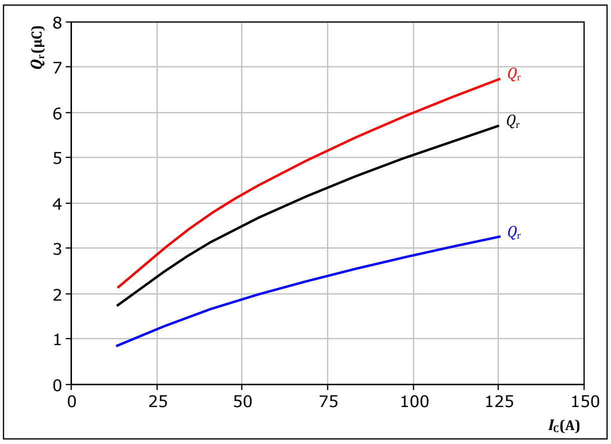
T_j: 25 °C, 125 °C, 150 °C

AC 2 Switching Characteristics L

figure 68. **FWD**

Typical recovered charge as a function of collector current

$Q_r = f(I_C)$



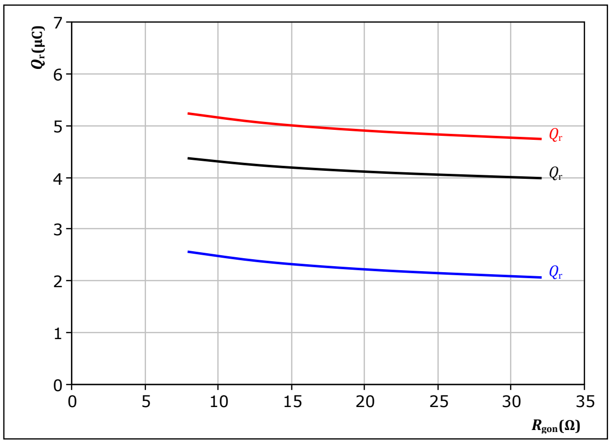
With an inductive load at

V_{CE} =	600	V	T_j: 25 °C / 125 °C / 150 °C
V_{GE} =	-5/15	V	
R_{gon} =	16	Ω	

figure 69. **FWD**

Typical recovered charge as a function of turn on gate resistor

$Q_r = f(R_{gon})$



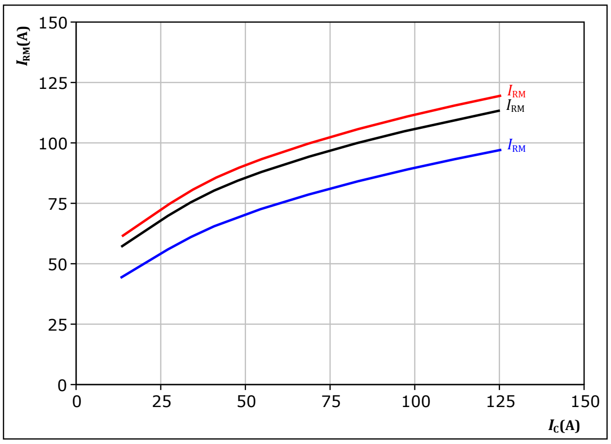
With an inductive load at

V_{CE} =	600	V	T_j: 25 °C / 125 °C / 150 °C
V_{GE} =	-5/15	V	
I_C =	70	A	

figure 70. **FWD**

Typical peak reverse recovery current as a function of collector current

$I_{RM} = f(I_C)$



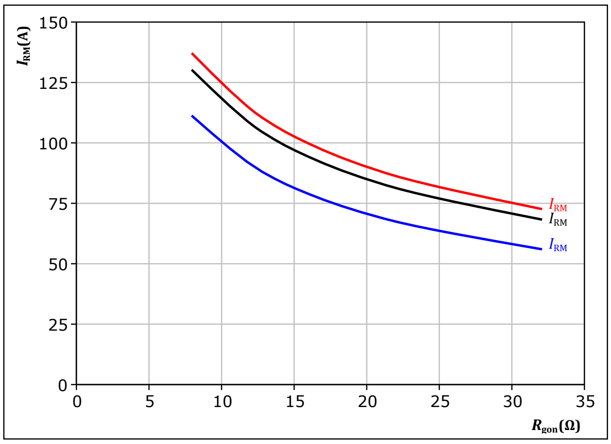
With an inductive load at

V_{CE} =	600	V	T_j: 25 °C / 125 °C / 150 °C
V_{GE} =	-5/15	V	
R_{gon} =	16	Ω	

figure 71. **FWD**

Typical peak reverse recovery current as a function of turn on gate resistor

$I_{RM} = f(R_{gon})$



With an inductive load at

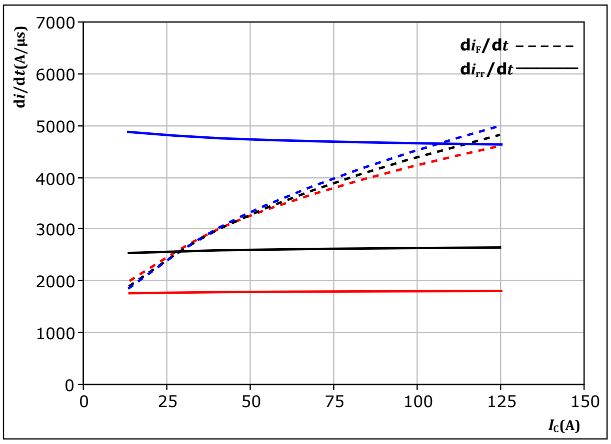
V_{CE} =	600	V	T_j: 25 °C / 125 °C / 150 °C
V_{GE} =	-5/15	V	
I_C =	70	A	

AC 2 Switching Characteristics L

figure 72. **FWD**

Typical rate of fall of forward and reverse recovery current as a function of collector current

di_F/dt, di_{rr}/dt = f(I_C)



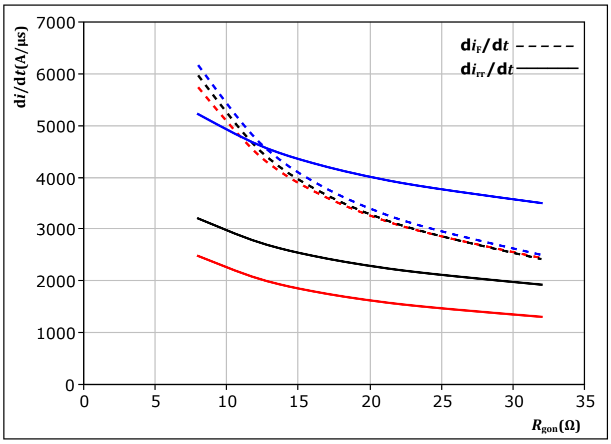
With an inductive load at

			T_j:
V_{CE} =	600	V	25 °C
V_{GE} =	-5/15	V	125 °C
R_{gon} =	16	Ω	150 °C

figure 73. **FWD**

Typical rate of fall of forward and reverse recovery current as a function of turn on gate resistor

di_F/dt, di_{rr}/dt = f(R_{gon})



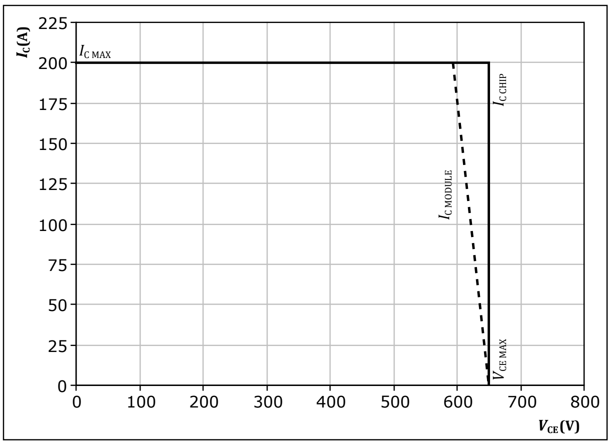
With an inductive load at

			T_j:
V_{CE} =	600	V	25 °C
V_{GE} =	-5/15	V	125 °C
I_C =	70	A	150 °C

figure 74. **IGBT**

Reverse bias safe operating area

I_C = f(V_{CE})



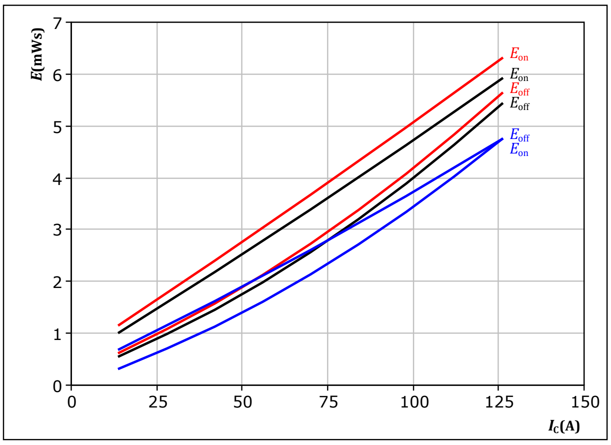
At			
	T_j =	150	°C
	R_{gon} =	16	Ω
	R_{goff} =	16	Ω

AC 2 Switching Characteristics H

figure 75. IGBT

Typical switching energy losses as a function of collector current

$E = f(I_C)$



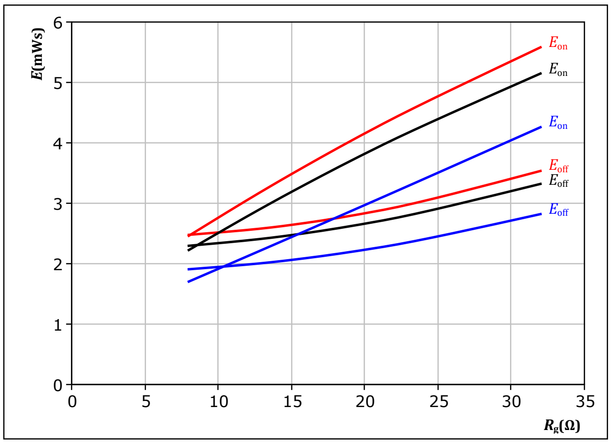
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	16	Ω		150 °C
R_{goff} =	16	Ω		

figure 76. IGBT

Typical switching energy losses as a function of gate resistor

$E = f(R_g)$



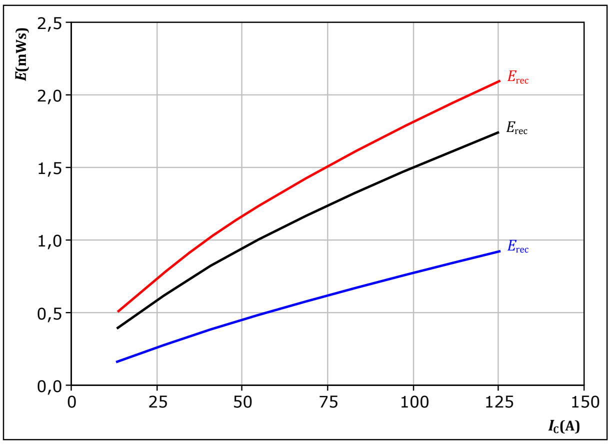
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 77. FWD

Typical reverse recovered energy loss as a function of collector current

$E_{rec} = f(I_C)$



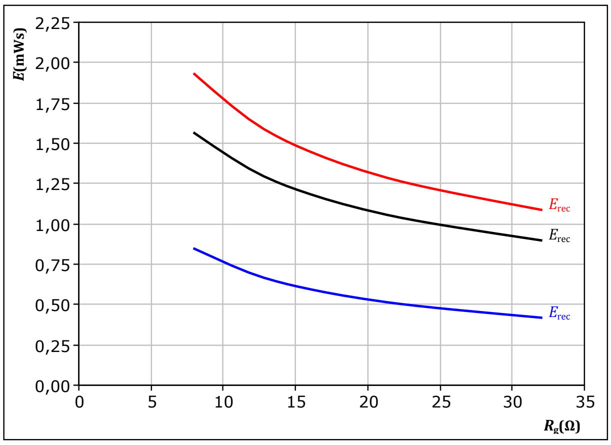
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	16	Ω		150 °C

figure 78. FWD

Typical reverse recovered energy loss as a function of gate resistor

$E_{rec} = f(R_g)$



With an inductive load at

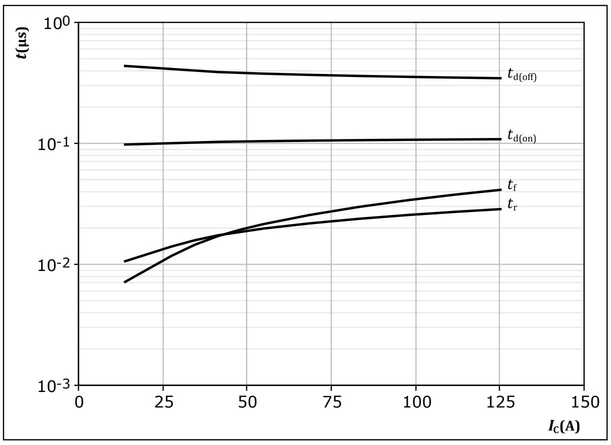
V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

AC 2 Switching Characteristics H

figure 79. IGBT

Typical switching times as a function of collector current

$t = f(I_C)$



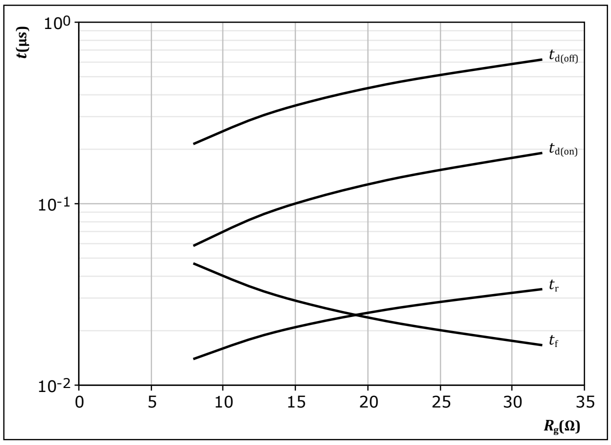
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	16	Ω
R_{goff} =	16	Ω

figure 80. IGBT

Typical switching times as a function of gate resistor

$t = f(R_g)$



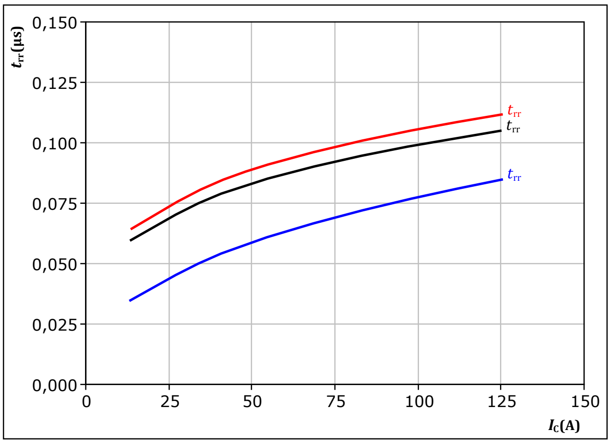
With an inductive load at

T_j =	150	°C
V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

figure 81. FWD

Typical reverse recovery time as a function of collector current

$t_{rr} = f(I_C)$



With an inductive load at

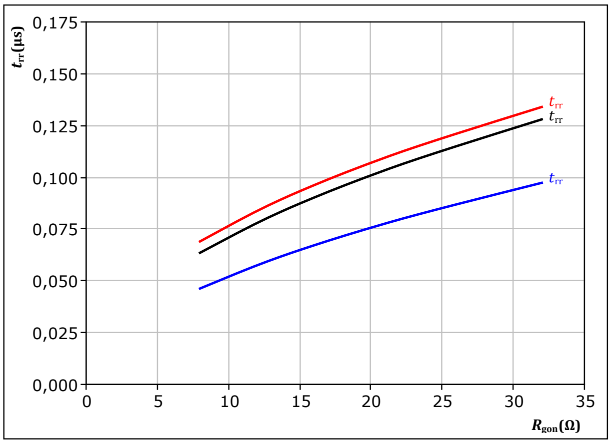
V_{CE} =	600	V
V_{GE} =	-5/15	V
R_{gon} =	16	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 82. FWD

Typical reverse recovery time as a function of IGBT turn on gate resistor

$t_{rr} = f(R_{gon})$



With an inductive load at

V_{CE} =	600	V
V_{GE} =	-5/15	V
I_C =	70	A

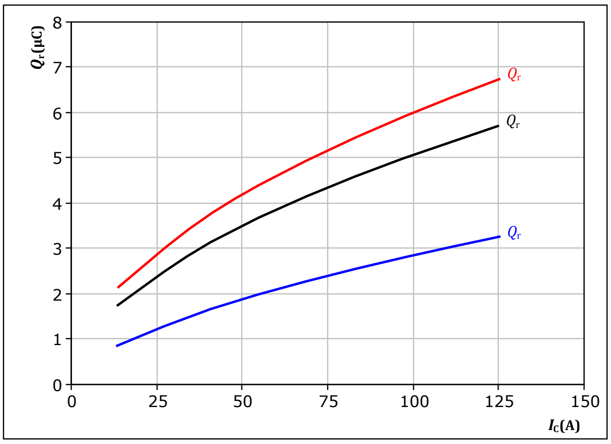
T_j: 25 °C, 125 °C, 150 °C

AC 2 Switching Characteristics H

figure 83. FWD

Typical recovered charge as a function of collector current

Q_r = f(I_C)



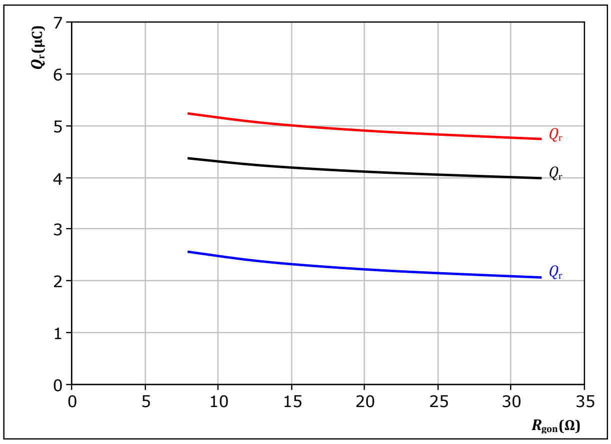
With an inductive load at

			T_j:
V_{CE} =	600	V	25 °C
V_{GE} =	-5/15	V	125 °C
R_{gon} =	16	Ω	150 °C

figure 84. FWD

Typical recovered charge as a function of turn on gate resistor

Q_r = f(R_{gon})



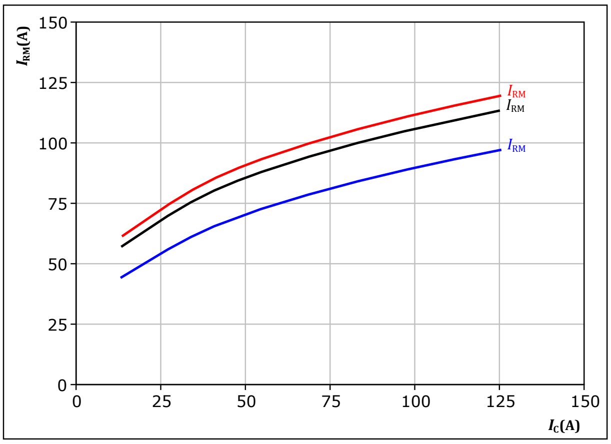
With an inductive load at

			T_j:
V_{CE} =	600	V	25 °C
V_{GE} =	-5/15	V	125 °C
I_C =	70	A	150 °C

figure 85. FWD

Typical peak reverse recovery current as a function of collector current

I_{RM} = f(I_C)



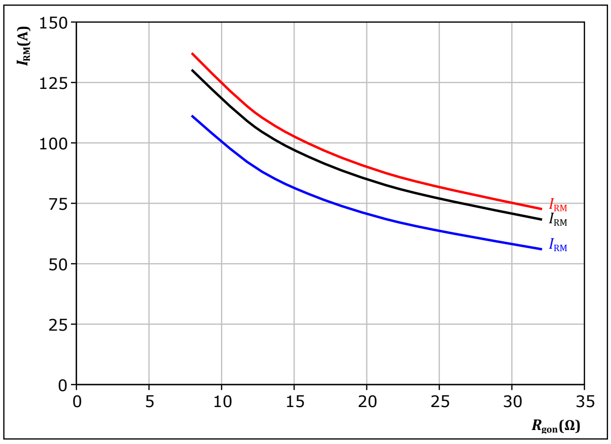
With an inductive load at

			T_j:
V_{CE} =	600	V	25 °C
V_{GE} =	-5/15	V	125 °C
R_{gon} =	16	Ω	150 °C

figure 86. FWD

Typical peak reverse recovery current as a function of turn on gate resistor

I_{RM} = f(R_{gon})



With an inductive load at

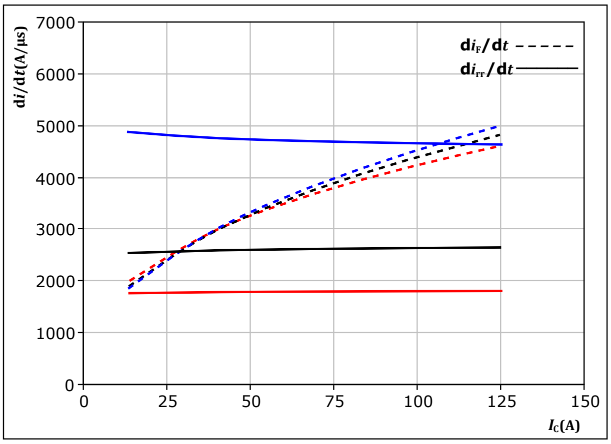
			T_j:
V_{CE} =	600	V	25 °C
V_{GE} =	-5/15	V	125 °C
I_C =	70	A	150 °C

AC 2 Switching Characteristics H

figure 87. **FWD**

Typical rate of fall of forward and reverse recovery current as a function of collector current

di_F/dt, di_{rr}/dt = f(I_C)



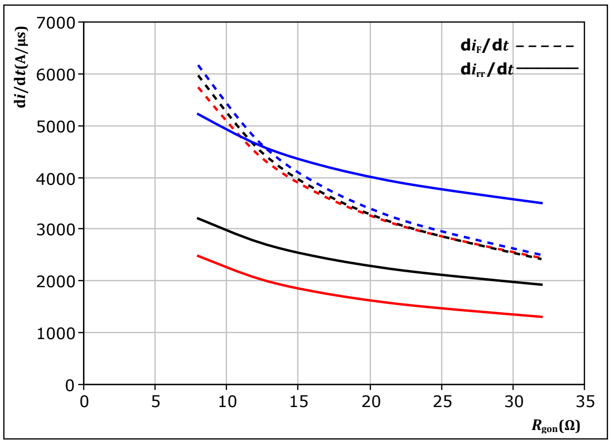
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
R_{gon} =	16	Ω		150 °C

figure 88. **FWD**

Typical rate of fall of forward and reverse recovery current as a function of turn on gate resistor

di_F/dt, di_{rr}/dt = f(R_{gon})



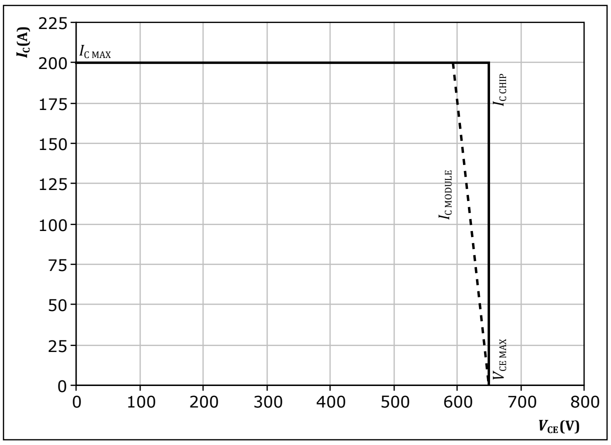
With an inductive load at

V_{CE} =	600	V	T_j:	25 °C
V_{GE} =	-5/15	V		125 °C
I_C =	70	A		150 °C

figure 89. **IGBT**

Reverse bias safe operating area

I_C = f(V_{CE})



At	T_j =	150	°C
	R_{gon} =	16	Ω
	R_{goff} =	16	Ω

Switching Definitions

figure 90. **IGBT**

Turn-off Switching Waveforms & definition of t_{doff}, t_{Eoff} (t_{tEoff} **= integrating time for** E_{off})

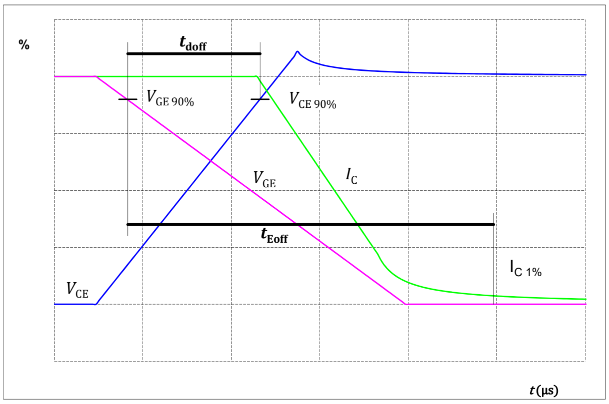


figure 91. **IGBT**

Turn-on Switching Waveforms & definition of t_{don}, t_{Eon} (t_{Eon} **= integrating time for** E_{on})

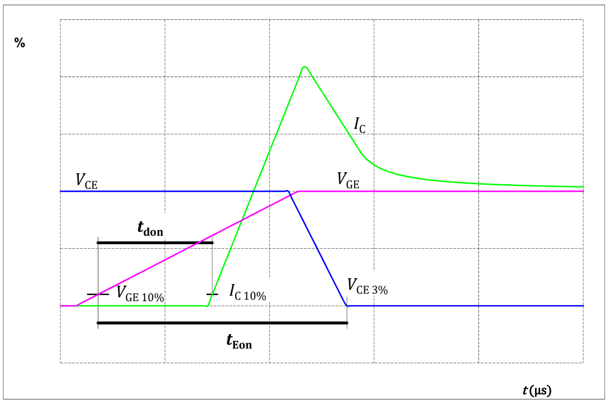


figure 92. **IGBT**

Turn-off Switching Waveforms & definition of t_f

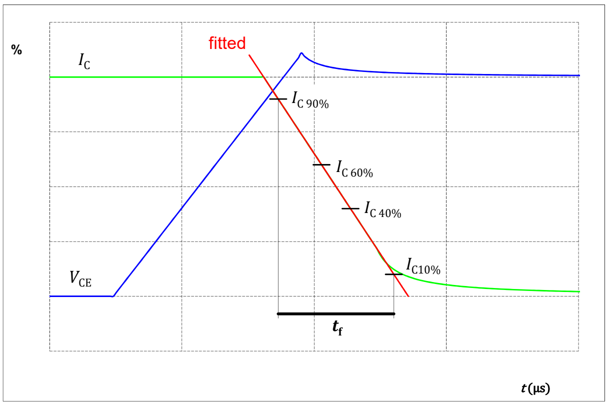
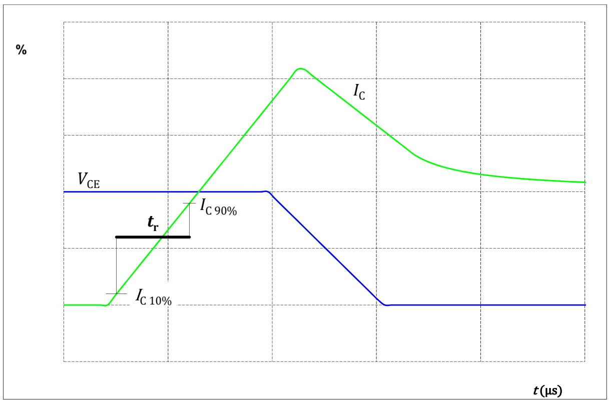


figure 93. **IGBT**

Turn-on Switching Waveforms & definition of t_r



Switching Definitions

figure 94.	FWD

Turn-off Switching Waveforms & definition of t_{rr}

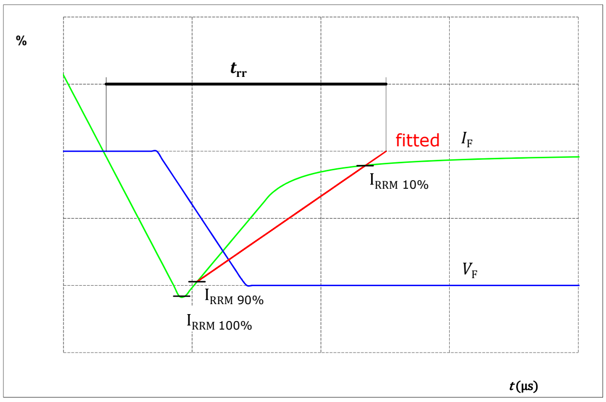
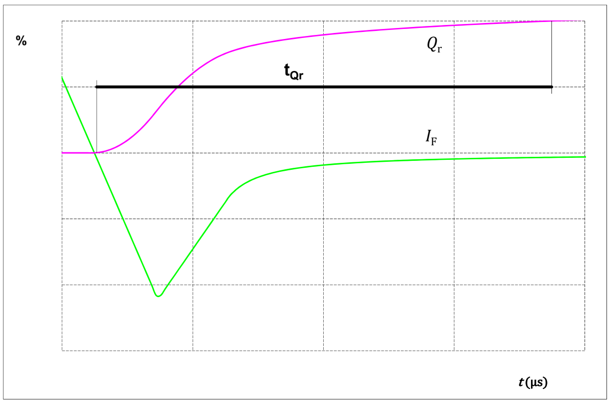


figure 95.	FWD

Turn-on Switching Waveforms & definition of t_{Qr} (t_{Qr} = integrating time for Q_r)



Ordering Code

Version	Ordering Code
Without thermal paste	10-PZ07FCA100RG-LQ35L60Y
With thermal paste	10-PZ07FCA100RG-LQ35L60Y-/3/

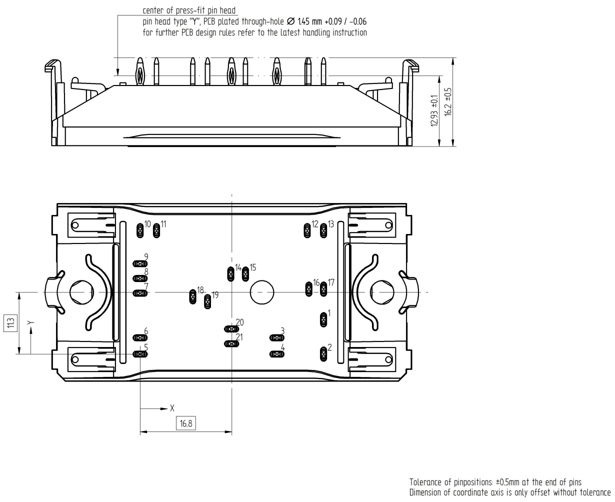
Marking

	Name		Date code	UL & VIN	Lot	Serial
Text	NN-NNNNNNNNNNNNNN-TTTTTTVV		WWYY	UL VIN	LLLLL	SSSS
	Type&Ver	**Lot number**	**Serial**	**Date code**		
Datamatrix	TTTTTTTVV	LLLLL	SSSS	WWYY		

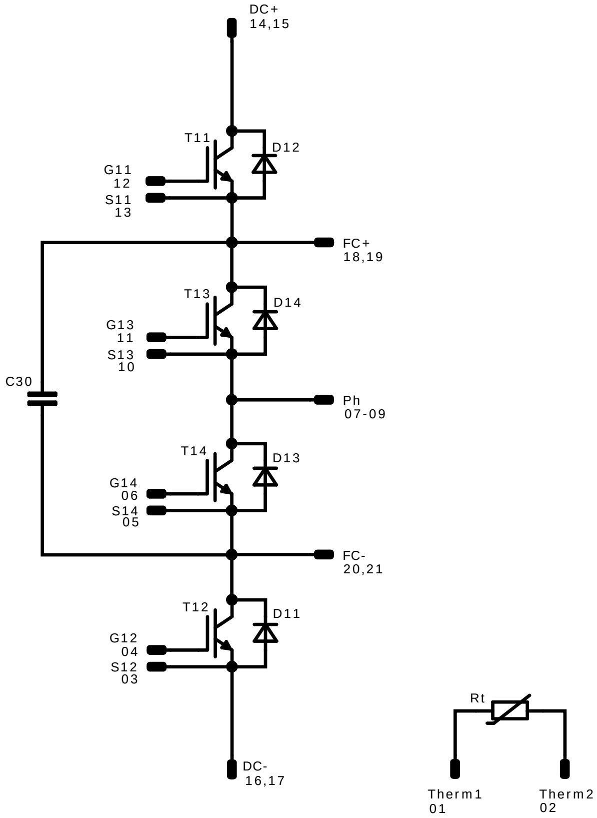
Outline

Pin table [mm]

Pin	X	Y	Function
1	33,6	6,3	Therm1
2	33,6	0	Therm2
3	25,05	3	S12
4	25,05	0	G12
5	0	0	S14
6	0	3	G14
7	0	11,15	Ph
8	0	13,85	Ph
9	0	16,55	Ph
10	0	22,6	S13
11	3	22,6	G13
12	30,6	22,6	G11
13	33,6	22,6	S11
14	16,6	14,65	DC+
15	19,3	14,65	DC+
16	30,9	11,9	DC-
17	33,6	11,9	DC-
18	9,65	10,5	FC+
19	12,35	9,6	FC+
20	16,75	4,6	FC-
21	16,75	1,9	FC-



Pinout



Identification

ID	Component	Voltage	Current	Function	Comment
T12	IGBT	650 V	100 A	AC 1 Switch L	
D11	FWD	650 V	100 A	AC 1 Diode L	
T11	IGBT	650 V	100 A	AC 1 Switch H	
D12	FWD	650 V	100 A	AC 1 Diode H	
T14	IGBT	650 V	100 A	AC 2 Switch L	
D13	FWD	650 V	100 A	AC 2 Diode L	
T13	IGBT	650 V	100 A	AC 2 Switch H	
D14	FWD	650 V	100 A	AC 2 Diode H	
C30	Capacitor	630 V		Flying Capacitor	
Rt	Thermistor			Thermistor	

Packaging instruction				
Standard packaging quantity (SPQ) 135	>SPQ	Standard	<SPQ	Sample

Handling instruction
Handling instructions for *flow* 0 packages see vincotech.com website.

Package data
Package data for *flow* 0 packages see vincotech.com website.

Vincotech thermistor reference
See Vincotech thermistor reference table at vincotech.com website.

UL recognition and file number
This device is certified according to UL 1557 standard, UL file number E192116. For more information see vincotech.com website.

Document No.:	Date:	Modification:	Pages
10-PZ07FCA100RG-LQ35L60Y-D1-14	12 Nov. 2020		