



flowPFC 0

600 V / 80 mΩ

### Topology features

- Dual Boost PFC
- Half Controlled Converter
- Integrated Shunt Resistor
- Integrated DC capacitor
- Temperature sensor

### Component features

- Commutation rugged
- Easy to use / drive
- Suitable for hard and soft switching

### Housing features

- Base isolation: Al<sub>2</sub>O<sub>3</sub>
- Clip-in, reliable mechanical connection, qualified for wave soldering
- Convex shaped substrate for superior thermal contact
- Thermo-mechanical push-and-pull force relief
- Solder pin

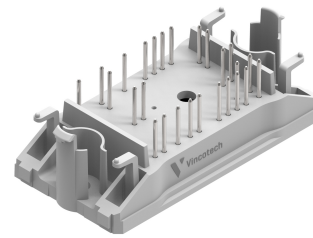
### Target applications

- Embedded Drives
- Industrial Drives

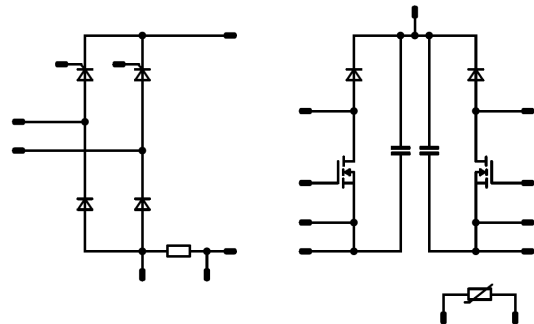
### Types

- 10-F0062TA080P7-P980D79

### flow 0 17 mm housing



### Schematic





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## Maximum Ratings

$T_j = 25\text{ °C}$ , unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
<b>PFC Switch</b>				
Drain-source voltage	$V_{DS}$		600	V
Drain current (DC current)	$I_D$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	18	A
Peak drain current	$I_{DM}$	$t_p$ limited by $T_{jmax}$	110	A
Avalanche energy, single pulse	$E_{AS}$	$V_{DD} = 50\text{ V}$ $I_D = 5,5\text{ A}$	118	mJ
Avalanche energy, repetitive	$E_{AR}$	$V_{DD} = 50\text{ V}$ $I_D = 5,5\text{ A}$	0,58	mJ
MOSFET dv/dt ruggedness	dv/dt	$V_{DS} = 0..400\text{ V}$ $T_s = 25\text{ °C}$	80	V/ns
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	54	W
Gate-source voltage	$V_{GSS}$		±20	V
Reverse diode dv/dt	dv/dt		50	V/ns
Maximum Junction Temperature	$T_{jmax}$		150	°C

## PFC Diode

Peak repetitive reverse voltage	$V_{RRM}$		600	V
Forward current (DC current)	$I_F$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	15	A
Repetitive peak forward current	$I_{FRM}$	$t_p$ limited by $T_{jmax}$	46	A
Surge (non-repetitive) forward current	$I_{FSM}$	Single Half Sine Wave, $t_p = 10\text{ ms}$ $T_j = 25\text{ °C}$	90	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	35	W
Maximum junction temperature	$T_{jmax}$		175	°C



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## Maximum Ratings

$T_j = 25\text{ °C}$ , unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
<b>Rectifier Thyristor</b>				
Repetitive peak reverse voltage	$V_{RRM}$		1200	V
Maximum RMS on-state current	$I_{TRMSM}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	25	A
Surge on-state current	$I_{ISM}$	Single Half Sine Wave, $t_p = 10\text{ ms}$ $T_j = 125\text{ °C}$	320	A
I2t value	$I^2t$	Single Half Sine Wave, $t_p = 8,3\text{ ms}$ $T_j = 125\text{ °C}$	510	A <sup>2</sup> s
Mean total power loss	$P_{tot(AV)}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	60	W
Maximum Junction Temperature	$T_{jmax}$		150	°C
<b>Rectifier Diode</b>				
Peak repetitive reverse voltage	$V_{RRM}$		1600	V
Forward current (DC current)	$I_F$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	51	A
Surge (non-repetitive) forward current	$I_{FSM}$	Single Half Sine Wave, $t_p = 10\text{ ms}$ $T_j = 150\text{ °C}$	280	A
Surge current capability	$I^2t$		390	A <sup>2</sup> s
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	68	W
Maximum junction temperature	$T_{jmax}$		150	°C
<b>PFC Shunt</b>				
DC current	$I$	$T_c = 70\text{ °C}$	26	A
Power dissipation	$P_{tot}$	$T_c = 70\text{ °C}$	7	W
<b>Capacitor (DC)</b>				
Maximum DC voltage	$V_{MAX}$		500	V
Operation Temperature	$T_{op}$		-55 ... 125	°C



### Maximum Ratings

$T_j = 25\text{ °C}$ , unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
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### Module Properties

#### 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* $t_p = 2\text{ s}$	6000	V
Isolation voltage	$V_{isol}$	AC Voltage $t_p = 1\text{ min}$	2500	V
Creepage distance			>12,7	mm
Clearance			>12,7	mm
Comparative Tracking Index	CTI		≥ 200	

\*100 % tested in production



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### 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		

#### PFC Switch

##### Static

Drain-source on-state resistance	$r_{DS(on)}$	10		11,8	25 125		81 148	80 <sup>(1)</sup>	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	0		0,00059	25	3	3,5	4	V
Gate to Source Leakage Current	$I_{GSS}$	20	0		25			100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	0	600		25			1	μA
Internal gate resistance	$r_g$						4,8		Ω
Gate charge	$Q_g$	0/10	400	11,8	25		51		nC
Short-circuit input capacitance	$C_{iss}$	$f = 250$ kHz	0	400	0	25		2180	pF
Short-circuit output capacitance	$C_{oss}$							37	

##### Thermal

Thermal resistance junction to sink <sup>(2)</sup>	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)					1,3		K/W
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##### Dynamic

Turn-on delay time	$t_{d(on)}$	$R_{gon} = 2$ Ω $R_{goff} = 2$ Ω	0/10	400	10	25		14,01	ns
Rise time	$t_r$					125		13,88	
						25		2,47	
Turn-off delay time	$t_{d(off)}$					125		2,95	
						25		61,56	
Fall time	$t_f$					125		69,03	
						25		3,13	
Turn-on energy (per pulse)	$E_{on}$	125		5,66					
		25		0,017					
Turn-off energy (per pulse)	$E_{off}$	125		0,022					
		25		0,015					
						125		0,018	mWs



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### Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
		$V_{GS}$ [V]	$V_{GE}$ [V]	$V_{DS}$ [V]	$V_{CE}$ [V]	$T_j$ [°C]	Min	Typ	Max	

#### PFC Diode

##### Static

Forward voltage	$V_F$				10	25 125 150		1,49 1,69 1,78	1,8 <sup>(1)</sup>	V
Reverse leakage current	$I_R$	$V_r = 600$ V				25 150		10 20	50 200	μA

##### Thermal

Thermal resistance junction to sink <sup>(2)</sup>	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						2,75		K/W
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##### Dynamic

Peak recovery current	$I_{RM}$	$di/dt=4533$ A/μs $di/dt=4171$ A/μs	0/10	400	10	25		16,14		A
	$t_{rr}$					125		14,34		
Reverse recovery time						25		7		
						125		8,33		
Recovered charge	$Q_r$					25		0,063		
Reverse recovered energy	$E_{rec}$	125		0,068						
		25		0,022						
		125		0,022						
Peak rate of fall of recovery current	$(di_{rr}/dt)_{max}$					25		6253,58		A/μs
						125		3151,81		



### 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		

#### Rectifier Thyristor

##### Static

On-state voltage	$V_T$				44	25 125		1,39 1,41	1,33 1,32	V
On-state threshold voltage	$V_{T(10)}$				44	125			0,9	V
On-state slope resistance	$r_T$				44	125			9	mΩ
Direct reverse current	$I_{RD}$	$V_r = 1200$ V				25 125			10 2	μA
Holding current	$I_H$			6		25			50	mA
Latching current	$I_L$	$t_p = 10$ μs $I_G = 0,2$ A $di_G/dt =$ A/μs				25			90	mA
Gate trigger voltage	$V_{GT}$					25			10	V
Gate trigger current	$I_{GT}$			6		25	11		28	mA
Gate non-trigger voltage	$V_{GD}$			$2/3 V_{DRM}$		125			0,2	V
Gate non-trigger current	$I_{GD}$					25			1	mA

##### Thermal

Thermal resistance junction to sink <sup>(2)</sup>	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						1,16		K/W
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#### Rectifier Diode

##### Static

Forward voltage	$V_F$				50	25 125		1,31 1,33	1,3 <sup>(1)</sup> 1,33 <sup>(1)</sup>	V
Reverse leakage current	$I_R$	$V_r = 1600$ V				25 150			20 1500	μA

##### Thermal

Thermal resistance junction to sink <sup>(2)</sup>	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						1,03		K/W
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### Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
		$V_{GS}$ [V]	$V_{GE}$ [V]	$V_{DS}$ [V]	$V_{CE}$ [V]	$T_j$ [°C]	Min	Typ	Max	

#### PFC Shunt

##### Static

Resistance	$R$							10		mΩ
Tolerance							-1		1	%
Temperature coefficient	tc							50		ppm/K

#### Capacitor (DC)

##### Static

Capacitance	$C$	DC bias voltage = 0 V				25		270		nF
Tolerance							-20		20	%

#### Thermistor

##### Static

Rated resistance	$R$					25		22		kΩ
Deviation of $R_{100}$	$\Delta_{R/R}$	$R_{100} = 1484 \Omega$				100	-5		5	%
Power dissipation	$P$					25		130		mW
Power dissipation constant	$d$					25		1,5		mW/K
B-value	$B_{(25/50)}$	Tol. $\pm 1$ %						3962		K
B-value	$B_{(25/100)}$	Tol. $\pm 1$ %						4000		K
Vincotech Thermistor Reference									I	

(1) Value at chip level

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



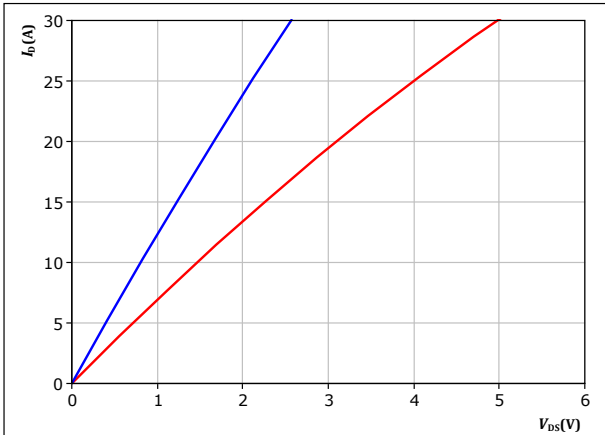


### PFC Switch Characteristics

figure 1. MOSFET

Typical output characteristics

$$I_D = f(V_{DS})$$

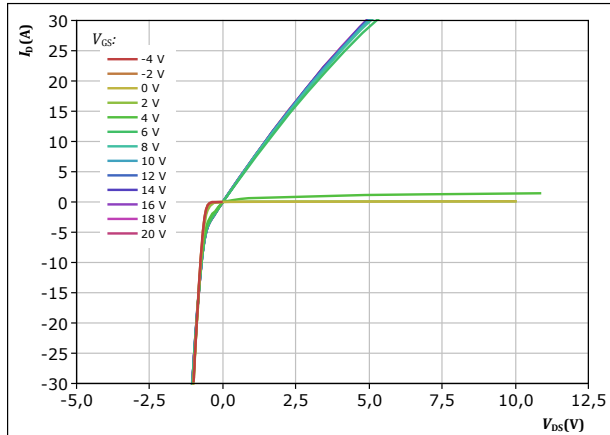


$t_p = 250 \mu s$   
 $V_{GS} = 10 V$   
 $T_j: 25 \text{ }^\circ C$  (blue line)  
 $125 \text{ }^\circ C$  (red line)

figure 2. MOSFET

Typical output characteristics

$$I_D = f(V_{DS})$$

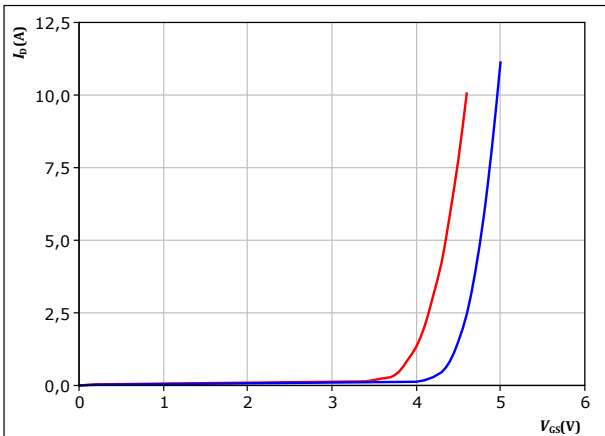


$t_p = 250 \mu s$   
 $T_j = 125 \text{ }^\circ C$   
 $V_{GS}$  from -4 V to 20 V in steps of 2 V

figure 3. MOSFET

Typical transfer characteristics

$$I_D = f(V_{GS})$$

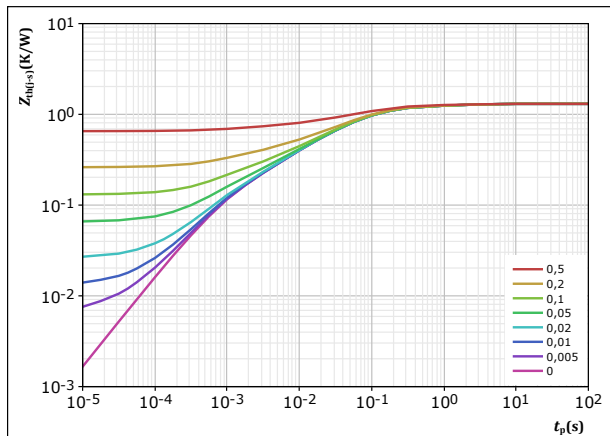


$t_p = 250 \mu s$   
 $V_{DS} = 10 V$   
 $T_j: 25 \text{ }^\circ C$  (blue line)  
 $125 \text{ }^\circ C$  (red line)

figure 4. MOSFET

Transient thermal impedance as a function of pulse width

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



$D = t_p / T$   
 $R_{th(j-s)} = 1,305 \text{ K/W}$   
MOSFET thermal model values

R (K/W)	$\tau$ (s)
9,84E-02	1,89E+00
3,74E-01	1,49E-01
4,96E-01	4,32E-02
2,23E-01	8,00E-03
1,14E-01	9,13E-04

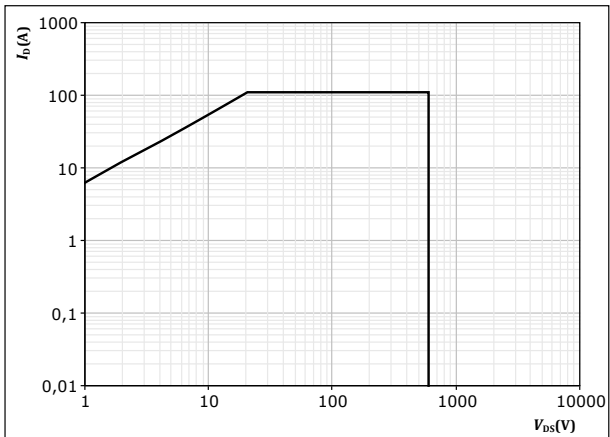


### PFC Switch Characteristics

figure 5. MOSFET

Safe operating area

$$I_D = f(V_{DS})$$



$D =$  single pulse  
 $T_s = 80$  °C  
 $V_{GS} = 10$  V  
 $T_j = T_{jmax}$



### PFC Diode Characteristics

figure 6. FWD

Typical forward characteristics

$$I_F = f(V_F)$$

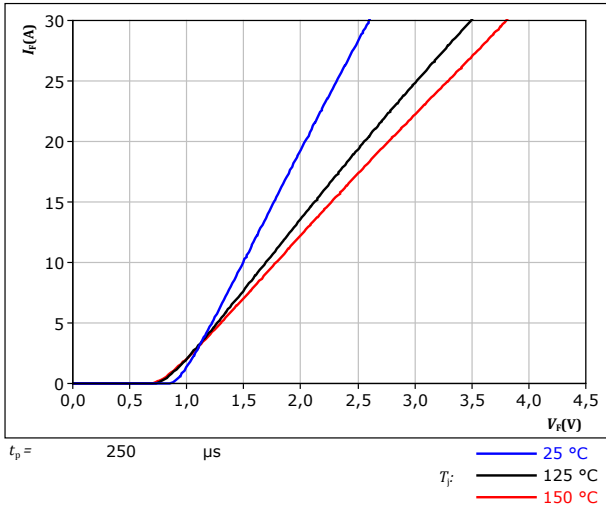
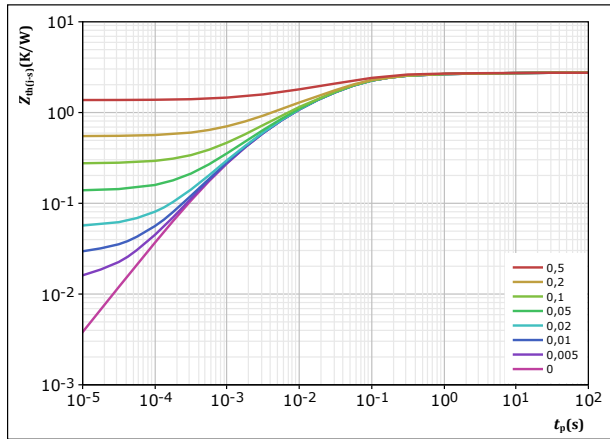


figure 7. FWD

Transient thermal impedance as a function of pulse width

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



$D = t_p / T$   
 $R_{th(j-s)} = 2,746 \text{ K/W}$   
 FWD thermal model values

R (K/W)	$\tau$ (s)
7,62E-02	8,00E+00
2,31E-01	4,59E-01
1,19E+00	6,16E-02
6,92E-01	1,36E-02
4,41E-01	3,29E-03
1,19E-01	6,68E-04



## Rectifier Thyristor Characteristics

figure 8. Thyristor

Typical forward characteristics

$$I_F = f(V_F)$$

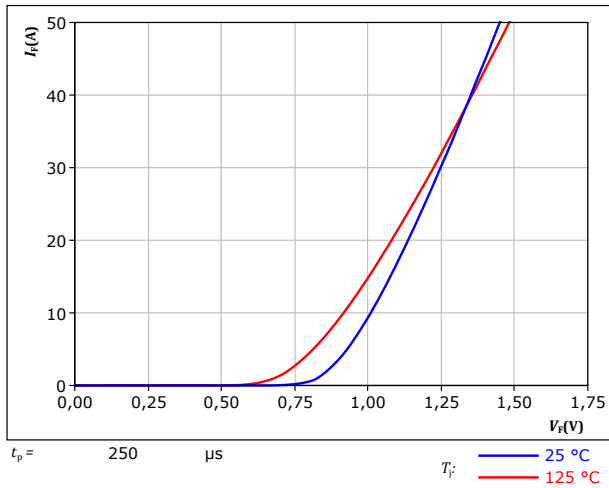
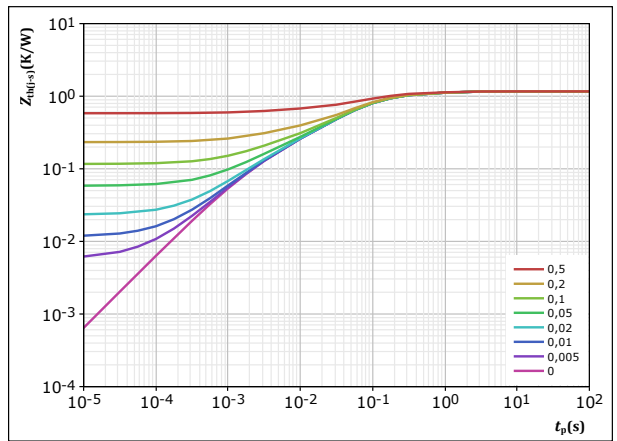


figure 9. Thyristor

Transient thermal impedance as a function of pulse width

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



$D = t_p / T$   
 $R_{th(j-s)} = 1,165 \text{ K/W}$

Thyristor thermal model values

$R$ (K/W)	$\tau$ (s)
1,32E-01	9,48E-01
4,51E-01	1,25E-01
4,32E-01	4,22E-02
1,06E-01	5,61E-03
4,49E-02	1,42E-03



## Rectifier Diode Characteristics

figure 10. Rectifier

Typical forward characteristics

$$I_F = f(V_F)$$

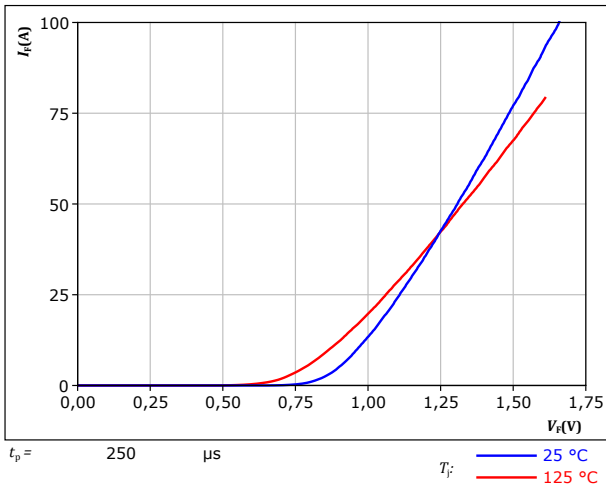
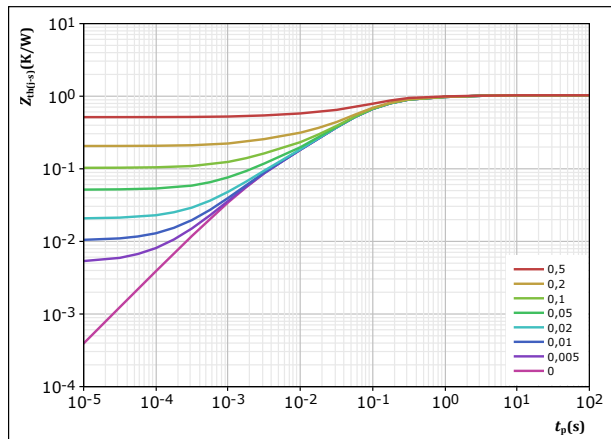


figure 11. Rectifier

Transient thermal impedance as a function of pulse width

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



$D = t_p / T$

$R_{th(j-s)} = 1,03 \text{ K/W}$

Rectifier thermal model values

$R \text{ (K/W)}$	$\tau \text{ (s)}$
5,79E-02	2,65E+00
1,32E-01	4,48E-01
6,73E-01	8,28E-02
1,09E-01	1,86E-02
5,86E-02	2,34E-03

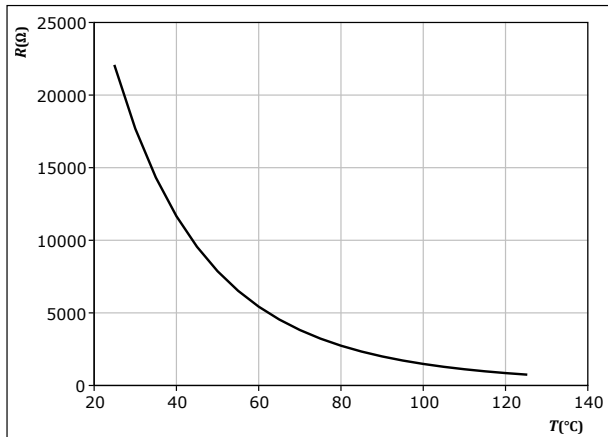


## Thermistor Characteristics

figure 12. Thermistor

Typical NTC characteristic as function of temperature

$$R_T = f(T)$$

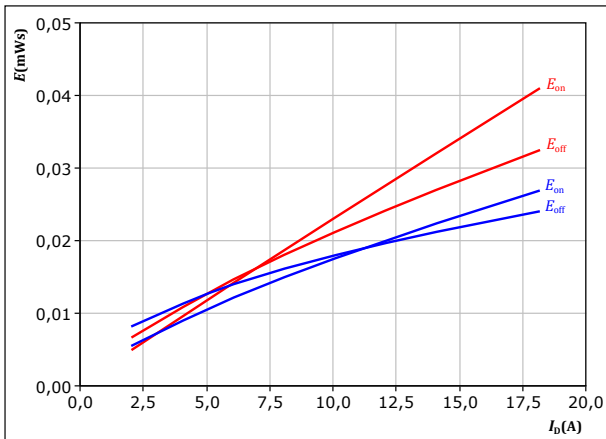




## PFC Switching Characteristics

**figure 13.** MOSFET

Typical switching energy losses as a function of drain current  
 $E = f(I_D)$



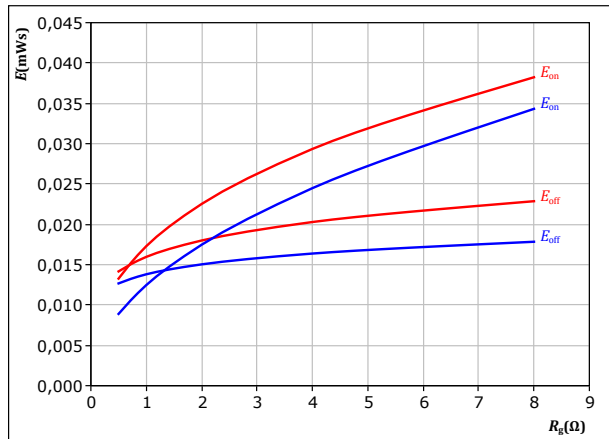
With an inductive load at

$V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $R_{gon} = 2$   $\Omega$   
 $R_{goff} = 2$   $\Omega$

$T_j$ : — 25 °C  
— 125 °C

**figure 14.** MOSFET

Typical switching energy losses as a function of MOSFET turn on gate resistor  
 $E = f(R_g)$



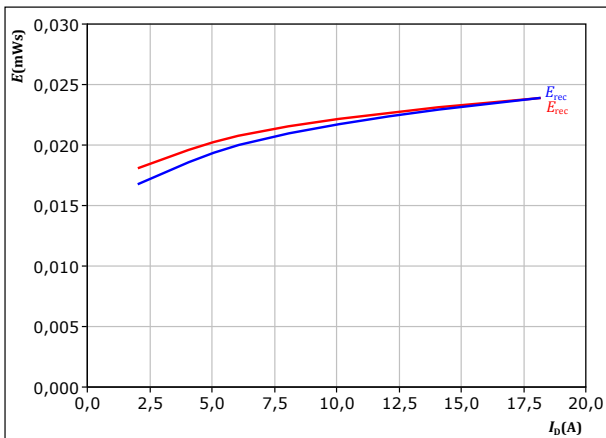
With an inductive load at

$V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $I_D = 10$  A

$T_j$ : — 25 °C  
— 125 °C

**figure 15.** FWD

Typical reverse recovered energy loss as a function of drain current  
 $E_{rec} = f(I_D)$



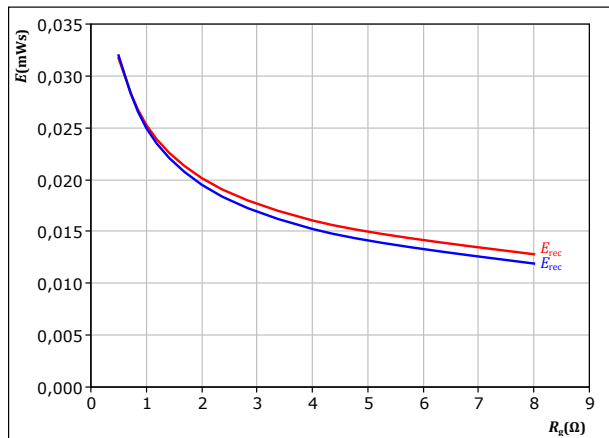
With an inductive load at

$V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $R_{gon} = 2$   $\Omega$

$T_j$ : — 25 °C  
— 125 °C

**figure 16.** FWD

Typical reverse recovered energy loss as a function of MOSFET turn on gate resistor  
 $E_{rec} = f(R_g)$



With an inductive load at

$V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $I_D = 10$  A

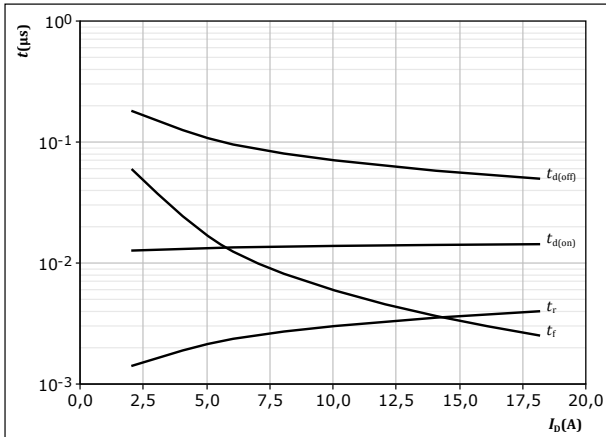
$T_j$ : — 25 °C  
— 125 °C



## PFC Switching Characteristics

**figure 17.** MOSFET

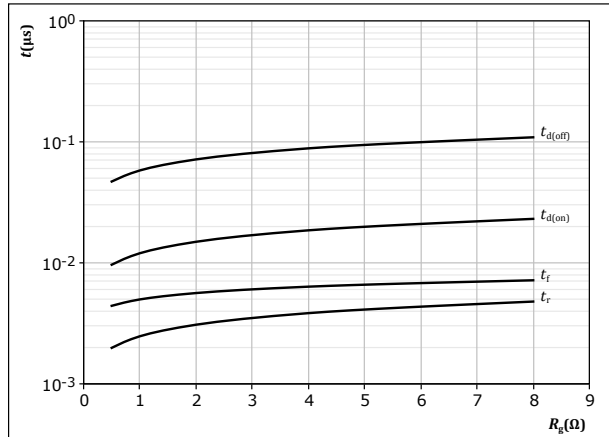
Typical switching times as a function of drain current  
 $t = f(I_D)$



With an inductive load at  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 $V_{DS} = 400 \text{ V}$   
 $V_{GS} = 0/10 \text{ V}$   
 $R_{gon} = 2 \text{ } \Omega$   
 $R_{goff} = 2 \text{ } \Omega$

**figure 18.** MOSFET

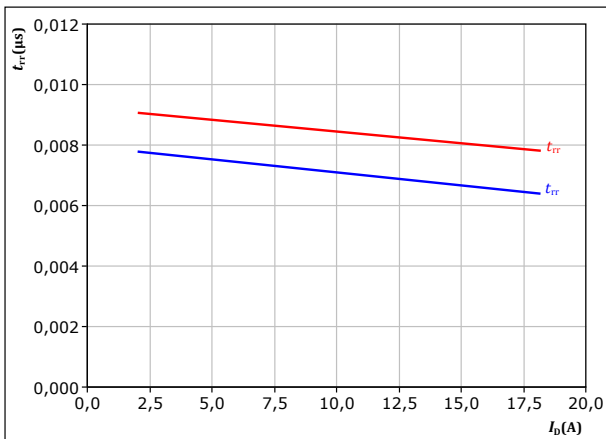
Typical switching times as a function of MOSFET turn on gate resistor  
 $t = f(R_g)$



With an inductive load at  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 $V_{DS} = 400 \text{ V}$   
 $V_{GS} = 0/10 \text{ V}$   
 $I_D = 10 \text{ A}$

**figure 19.** FWD

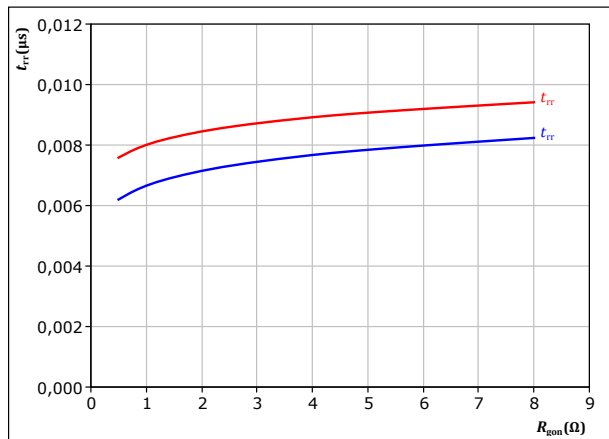
Typical reverse recovery time as a function of drain current  
 $t_{rr} = f(I_D)$



At  $V_{DS} = 400 \text{ V}$   
 $V_{GS} = 0/10 \text{ V}$   
 $R_{gon} = 2 \text{ } \Omega$   
 $T_j$ : — 25  $^\circ\text{C}$   
— 125  $^\circ\text{C}$

**figure 20.** FWD

Typical reverse recovery time as a function of MOSFET turn on gate resistor  
 $t_{rr} = f(R_{gon})$



At  $V_{DS} = 400 \text{ V}$   
 $V_{GS} = 0/10 \text{ V}$   
 $I_D = 10 \text{ A}$   
 $T_j$ : — 25  $^\circ\text{C}$   
— 125  $^\circ\text{C}$



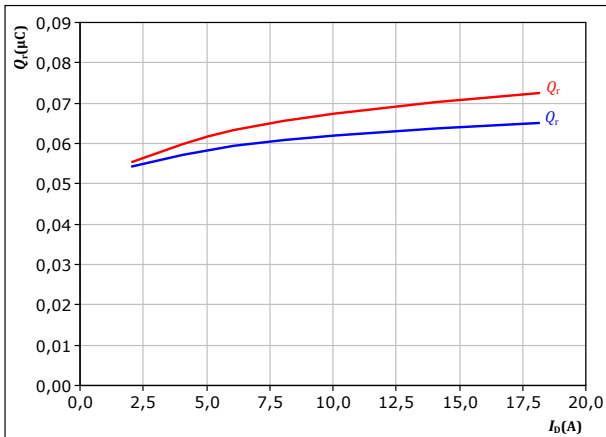


## PFC Switching Characteristics

**figure 21.** FWD

Typical recovered charge as a function of drain current

$$Q_r = f(I_D)$$

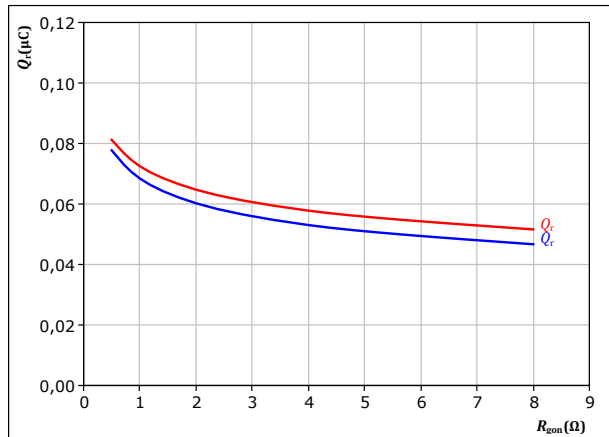


At  $V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $R_{gon} = 2$  Ω  
 $T_j$ : — 25 °C  
— 125 °C

**figure 22.** FWD

Typical recovered charge as a function of MOSFET turn on gate resistor

$$Q_r = f(R_{gon})$$

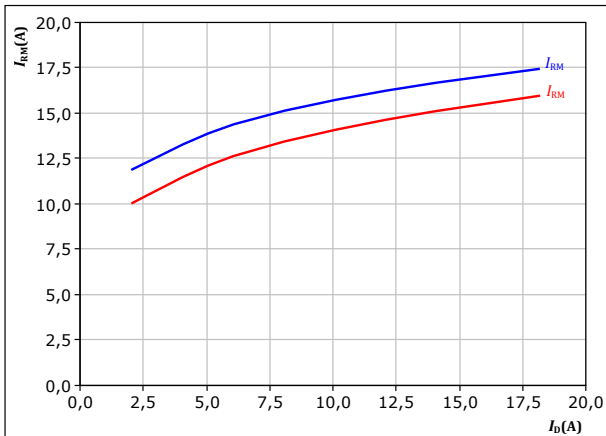


At  $V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $I_D = 10$  A  
 $T_j$ : — 25 °C  
— 125 °C

**figure 23.** FWD

Typical peak reverse recovery current as a function of drain current

$$I_{RM} = f(I_D)$$

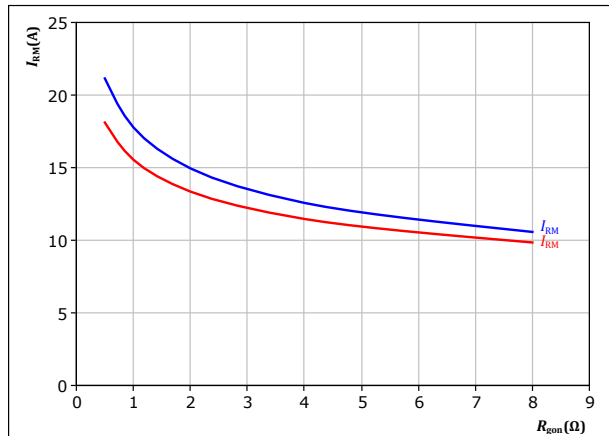


At  $V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $R_{gon} = 2$  Ω  
 $T_j$ : — 25 °C  
— 125 °C

**figure 24.** FWD

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

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



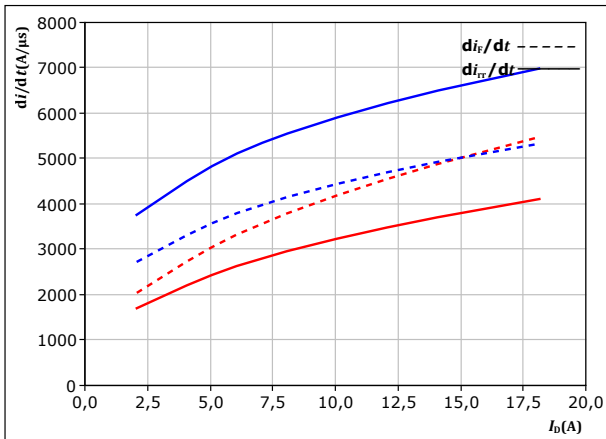
At  $V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $I_D = 10$  A  
 $T_j$ : — 25 °C  
— 125 °C



### PFC Switching Characteristics

**figure 25.** FWD

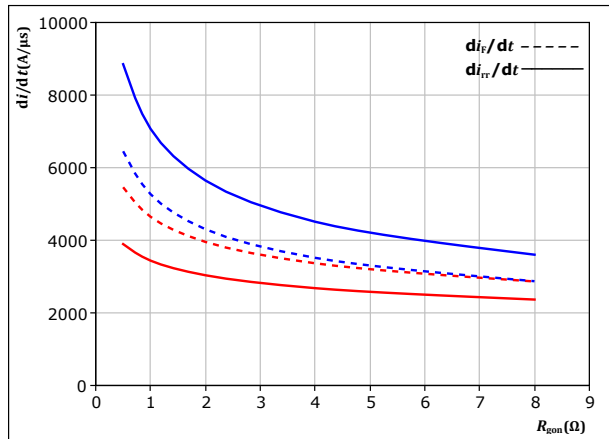
Typical rate of fall of forward and reverse recovery current as a function of drain current  
 $di_f/dt, di_{rr}/dt = f(I_D)$



At  $V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $R_{g\text{on}} = 2$   $\Omega$   
 $T_j: 25$  °C  
 $125$  °C

**figure 26.** FWD

Typical rate of fall of forward and reverse recovery current as a function of turn on gate resistor  
 $di_f/dt, di_{rr}/dt = f(R_{g\text{on}})$

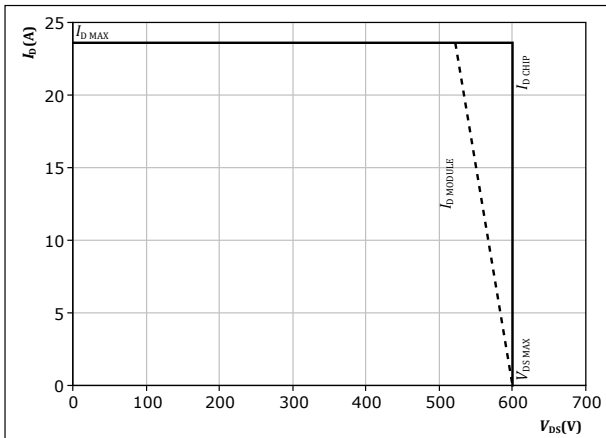


At  $V_{DS} = 400$  V  
 $V_{GS} = 0/10$  V  
 $I_D = 10$  A  
 $T_j: 25$  °C  
 $125$  °C

**figure 27.** MOSFET

Reverse bias safe operating area

$I_D = f(V_{DS})$



At  $T_j = 125$  °C  
 $R_{g\text{on}} = 2$   $\Omega$   
 $R_{g\text{off}} = 2$   $\Omega$



### PFC Switching Definitions

figure 28. MOSFET

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

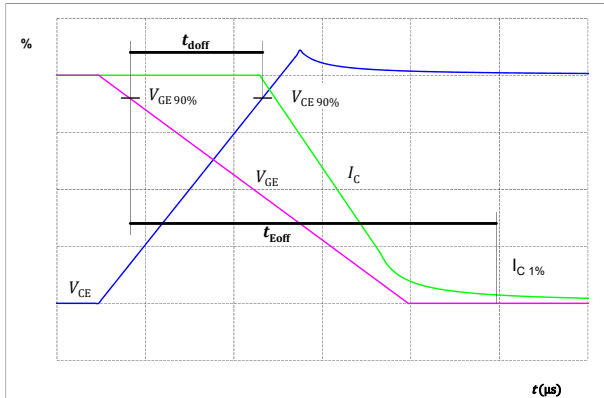


figure 29. MOSFET

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

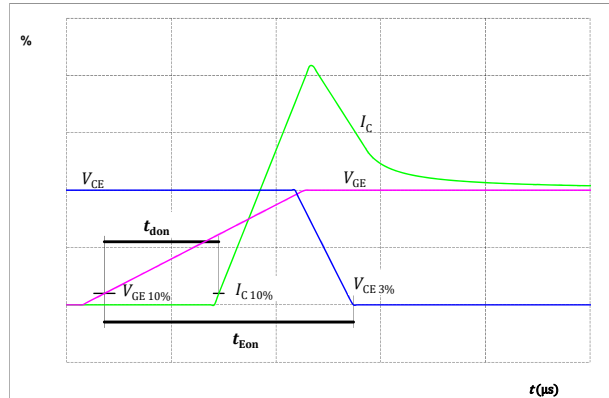


figure 30. MOSFET

Turn-off Switching Waveforms & definition of  $t_f$

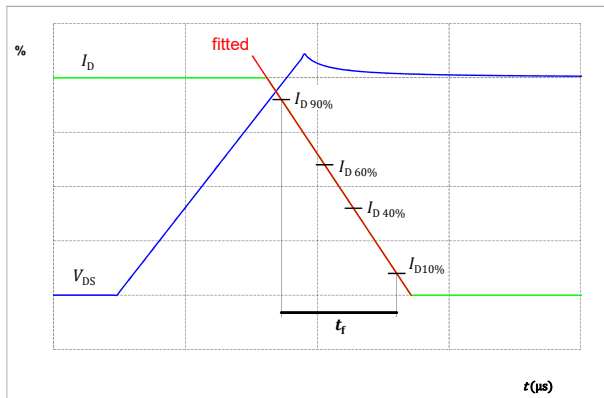
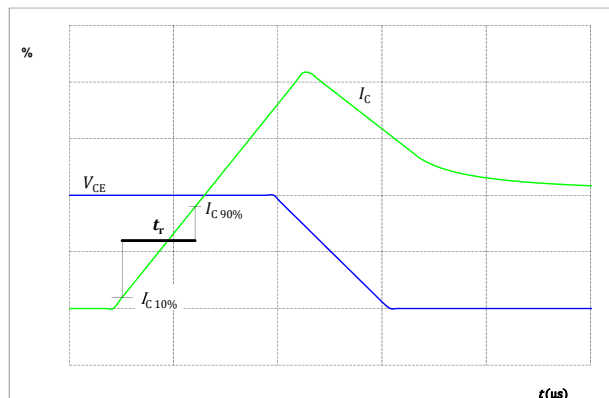


figure 31. MOSFET

Turn-on Switching Waveforms & definition of  $t_r$





### PFC Switching Definitions

figure 32. FWD

Turn-off Switching Waveforms & definition of  $t_{tr}$

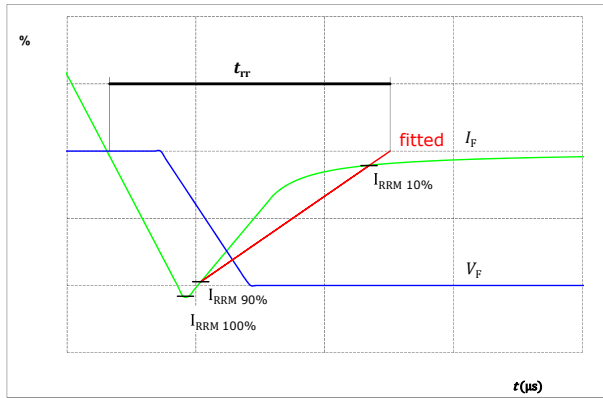


figure 33. FWD

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

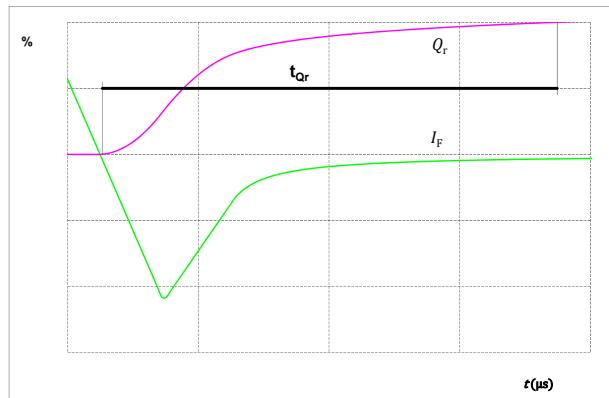
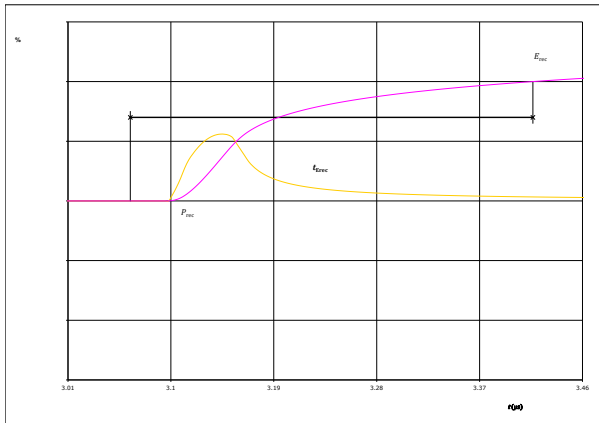


figure 34. FWD

Turn-on Switching Waveforms & definition of  $t_{Erec}$  ( $t_{Erec}$  = integrating time for  $E_{rec}$ )





Vincotech

**10-F0062TA080P7-P980D79**  
datasheet

Ordering Code	
<b>Version</b>	<b>Ordering Code</b>
Without thermal paste	10-F0062TA080P7-P980D79
With thermal paste (5,2 W/mK, PTM6000HV)	10-F0062TA080P7-P980D79-/-7/
With thermal paste (3,4 W/mK, PSX-P7)	10-F0062TA080P7-P980D79-/-3/

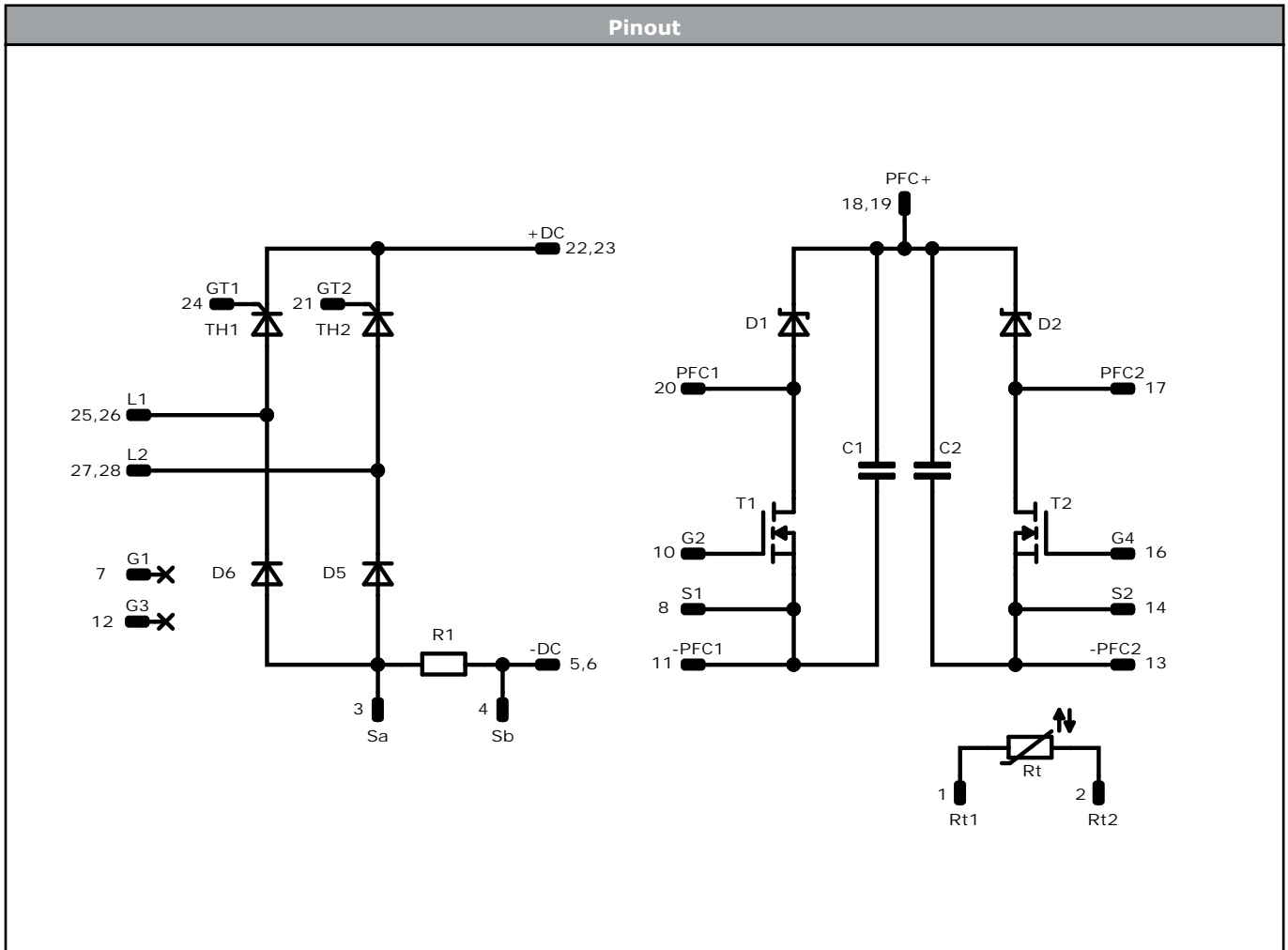
Marking						
	<b>Text</b>	<b>Name</b> NN-NNNNNNNNNNNNNN- TTTTTIVV	<b>Date code</b> WWYY	<b>UL &amp; VIN</b> UL VIN	<b>Lot</b> LLLLL	<b>Serial</b> SSSS
	<b>Datamatrix</b>	<b>Type&amp;Ver</b> TTTTTIVV	<b>Lot number</b> LLLLL	<b>Serial</b> SSSS	<b>Date code</b> WWYY	

Outline			
Pin table [mm]			
Pin	X	Y	Function
1	33,5	0	Rt1
2	33,5	2,8	Rt2
3	29,5	2,8	Sa
4	29,5	0	Sb
5	26,7	0	-DC
6	23,9	0	-DC
7	21,05	0	G1
8	14,85	0	S1
9	not assembled		
10	12,05	0	G2
11	9,5	12,05	-PFC1
12	8,2	0	G3
13	6,7	12,05	-PFC2
14	3,9	0	S2
15	not assembled		
16	1,1	0	G4
17	0	22,7	PFC2
18	7,1	22,7	+PFC
19	7,1	20,2	+PFC
20	14,2	22,7	PFC1
21	20,7	22,7	GT2
22	23,5	22,7	+DC
23	26	22,7	+DC
24	28,8	22,7	GT1
25	33,5	18,55	L1
26	33,5	16,05	L1
27	33,5	8,7	L2
28	31	8,7	L2

Tolerance of positions: ±0.5mm at the end of pins  
Dimension of coordinate axis is only offset without tolerance



Vincotech



Identification					
ID	Component	Voltage	Current	Function	Comment
T1, T2	MOSFET	600 V	69 mΩ	PFC Switch	
D1, D2	FWD	600 V	10 A	PFC Diode	
TH1, TH2	Thyristor	1200 V	25 A	Rectifier Thyristor	
D6, D5	Rectifier	1600 V	50 A	Rectifier Diode	
R1	Shunt			PFC Shunt	
C1, C2	Capacitor	500 V		Capacitor (DC)	
Rt	Thermistor			Thermistor	




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

Handling instruction
Handling instructions for <i>flow 0</i> packages see vincotech.com website.

Package data
Package data for <i>flow 0</i> 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-F0062TA080P7-P980D79-D1-14	16 Jun. 2022		

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.