Technical Data | *Green Products*
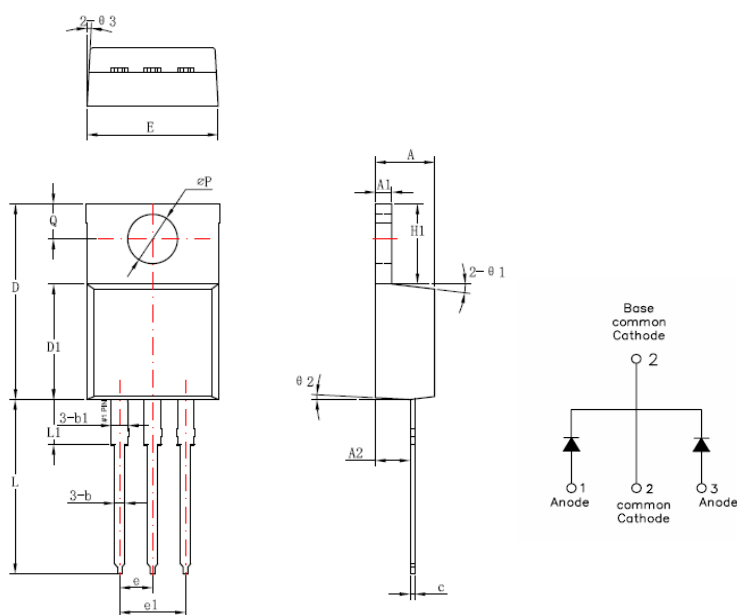
Data Sheet N1256, Rev. -

SDUR/B/D1520CT ULTRAFAST PLASTIC RECTIFIER

Applications:

- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Features:

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

SDUR1520CT	SDURB1520CT	SDURD1520CT
TO-220AB	D^{2}PAK	DPAK
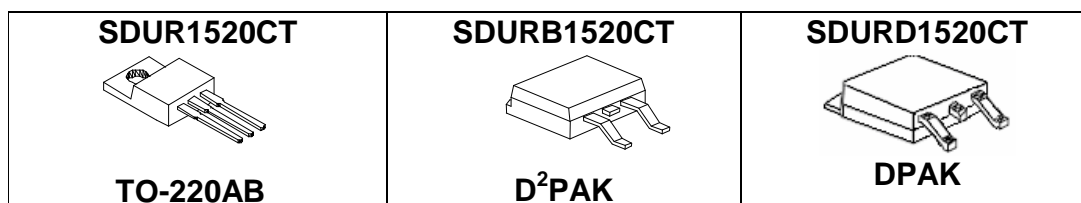
Mechanical Dimensions: In Inches / mm

Base common Cathode

1 Anode   2 common Cathode   3 Anode

Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		7°	
Θ2		3°	
Θ3		4°	

TO-220AB

Technical Data
Data Sheet N1256, Rev. -

Green Products
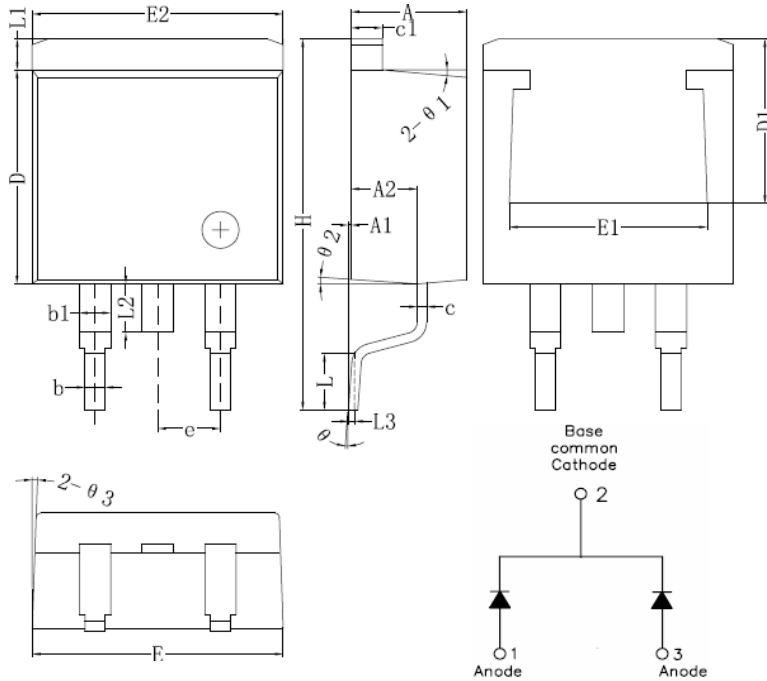
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

Base common Cathode

D² PAK
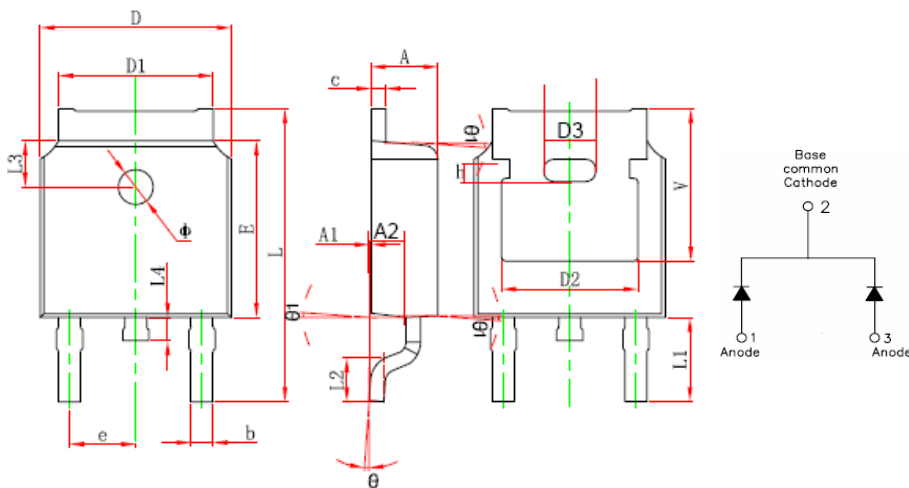
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
A2	0.910	1.110	0.036	0.044
V	5.350 REF.		0.211 REF.	
D3	1.778REF.		0.070REF.	
h	0.762REF.		0.030REF.	
θ1	7°		7°	

Base common Cathode

DPAK

Technical Data
Data Sheet N1256, Rev. -

Green Products

Marking Diagram:

SDUR1520CT   SDURB1520CT   SDURD1520CT
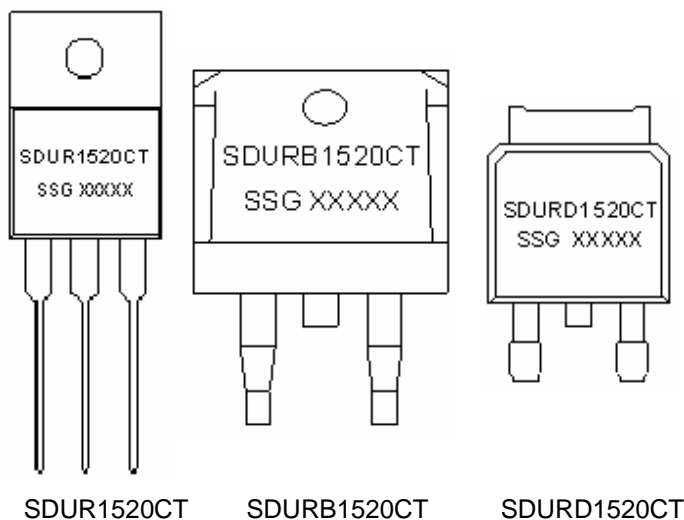
Where XXXXX is YYWWL

SDUR	= Device Type
B	= Package type
15	= Forward Current (15A)
20	= Reverse Voltage (200V)
CT	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Cautions： Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
SDUR1520CT	TO-220AB (Pb-Free)	50pcs / tube
SDURB1520CT	D² PAK (Pb-Free)	800pcs/ reel
SDURD15120CT	DPAK (Pb-Free)	2500pcs/ reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

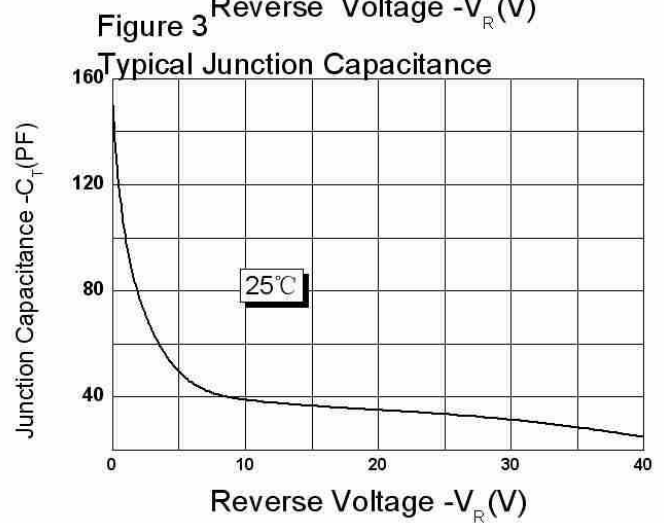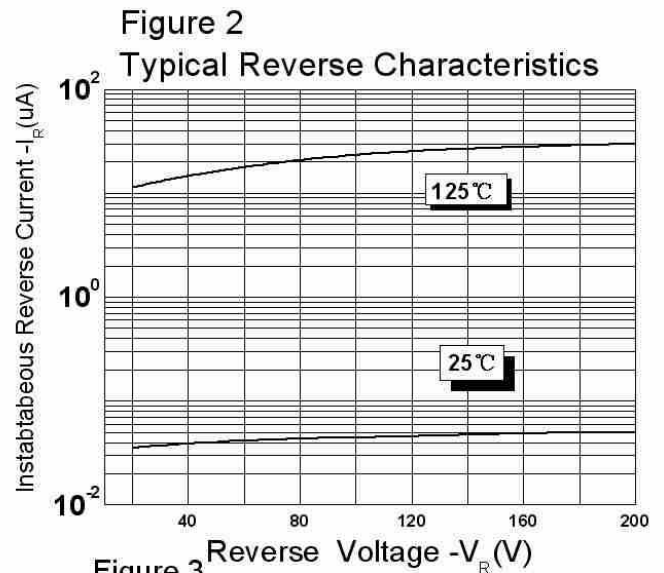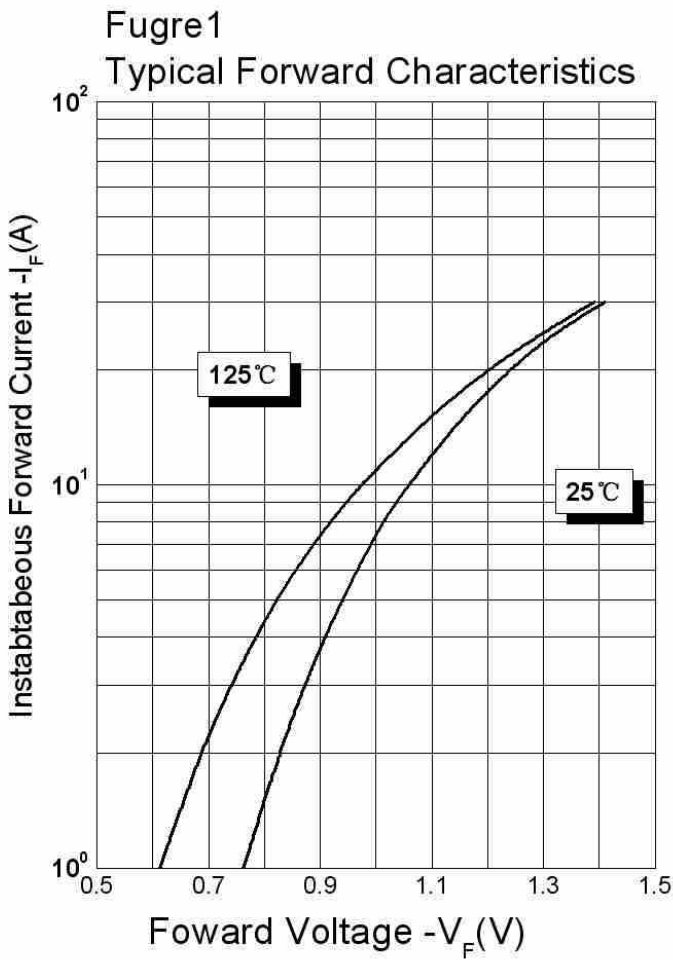| Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	200	V
Average Forward Current	$I_{O(AV)}$	50Hz, Sine wave, T_C=105℃	15	A
Max. Peak One Cycle Non-Repetitive Surge Current (Per leg)	I_{FSM}	8.3ms, Half Sine pulse	80	A

Technical Data
Data Sheet N1256, Rev. -

Green Products

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop(Per leg)*	V_{F1}	@8A, Pulse, $T_J = 25°C$	1.2	V
	V_{F2}	@8A, Pulse, $T_J = 125°C$	1.1	V
Reverse Current*	I_{R1}	@V_R = rated V_R $T_J = 25°C$	5	µA
	I_{R2}	@V_R = rated V_R $T_J = 125°C$	500	µA
Reverse Recovery Time	t_{rr}	I_F=500mA, I_R=1A,and I_{rm}=250mA	35	ns

* Pulse width < 300 µs, duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	SDUR1520CT	SDURB1520CT	SDURD1520CT	Units
Junction Temperature	T_J	-55 to +150			°C
Storage Temperature	T_{stg}	-55 to +150			°C
Maximum Thermal Resistance Junction to Case(per leg)*	$R_{\theta JC}$	2.3	2.3	1.7	K/W
Approximate Weight	wt	2.0	1.85	0.39	g
Case Style		TO-220AB/ D²PAK/ DPAK			

Technical Data
Data Sheet N1256, Rev. -
Green Products

Fugre1
Typical Forward Characteristics

Figure 2
Typical Reverse Characteristics

Figure 3
Typical Junction Capacitance

SANGDEST
MICROELECTRONICS

SDUR/B/D1520CT

Technical Data
Data Sheet N1256, Rev. -

Green Products

DISCLAIMER:
1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).
2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .
3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..