

Technical Data  
Data Sheet N1266, Rev. -

*Green Products*

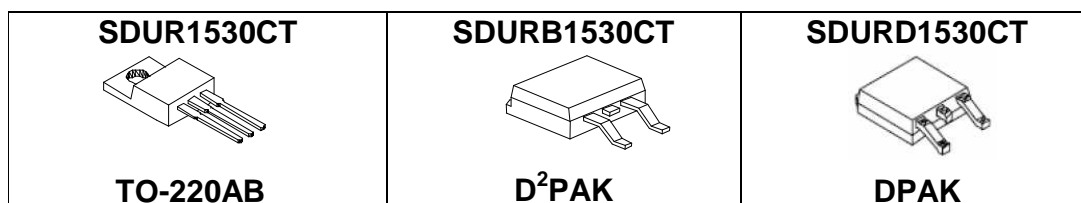
## SDUR/B/D1530CT ULTRAFAST PLASTIC RECTIFIER

### Applications:

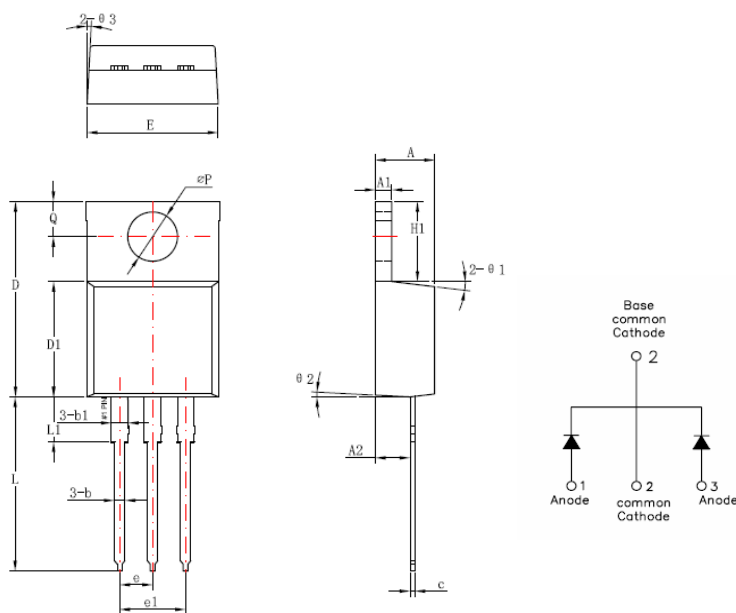
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners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

### Features:

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

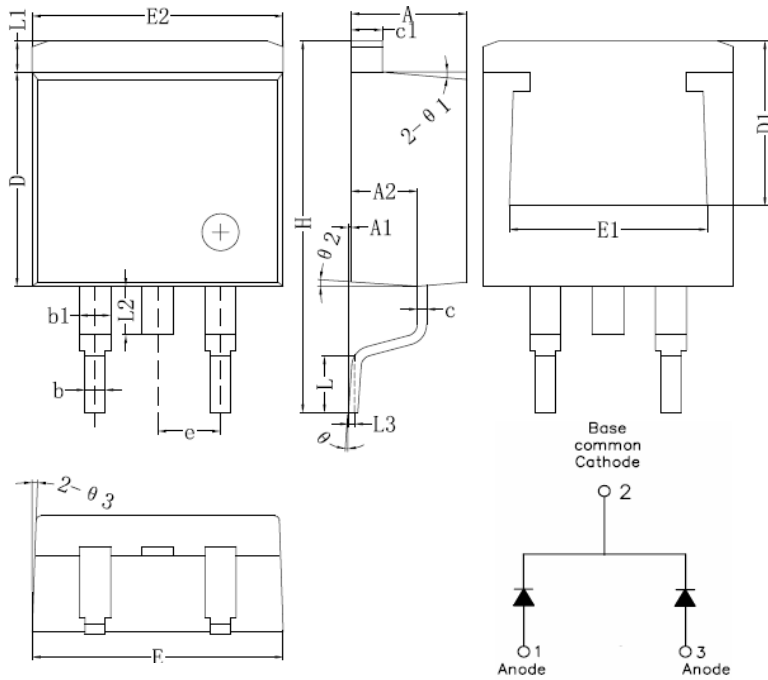


Mechanical Dimensions: In Inches / mm



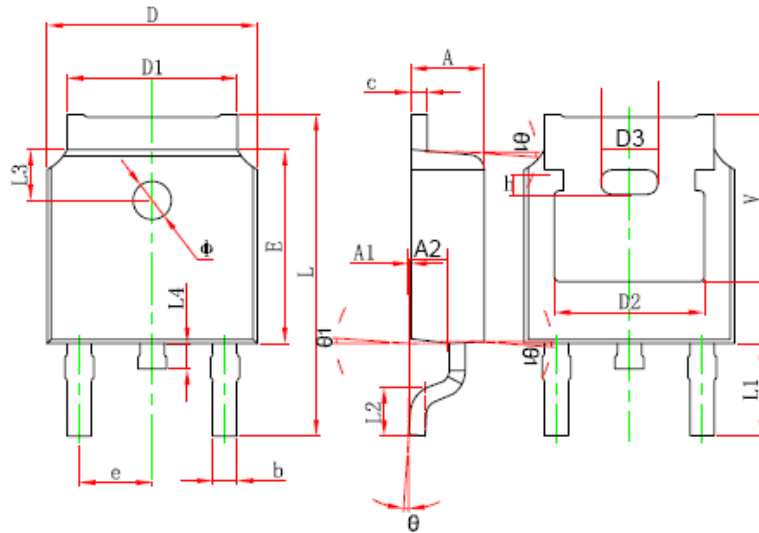
**TO-220AB**

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	
ØP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Ø1		7°	
Ø2		3°	
Ø3		4°	

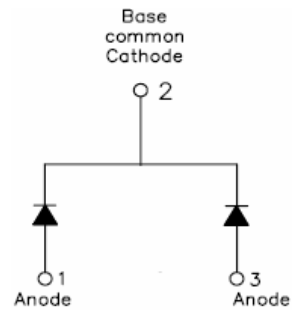


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40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

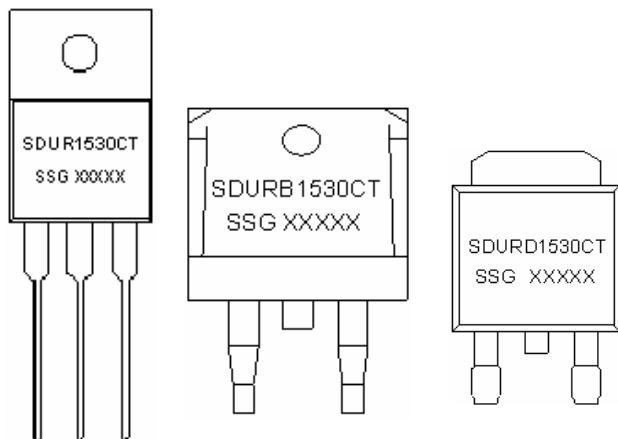
**D<sup>2</sup> PAK**



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	1.778 REF.		0.070 REF.	
h	0.762 REF.		0.030 REF.	
θ1	7°		7°	



**DPAK**

**Marking Diagram:**


Where XXXXX is YYWWL

SDUR = Device Type  
 B/D = Package type  
 15 = Forward Current (15A)  
 30 = Reverse Voltage (300V)  
 CT = Configuration  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

SDUR1530CT      SDURB1530CT      SDURD1530CT

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

**Ordering Information:**

Device	Package	Shipping
SDUR1530CT	TO-220AB (Pb-Free)	50pcs / tube
SDURB1530CT	D <sup>2</sup> PAK (Pb-Free)	800pcs/ reel
SDURD1530CT	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	$V_{RWM}$	-	300	V
Max. Average Forward	$I_{O(AV)}$	50Hz, Sine wave, $T_C=105^{\circ}C$	15	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3ms, Half Sine pulse	80	A

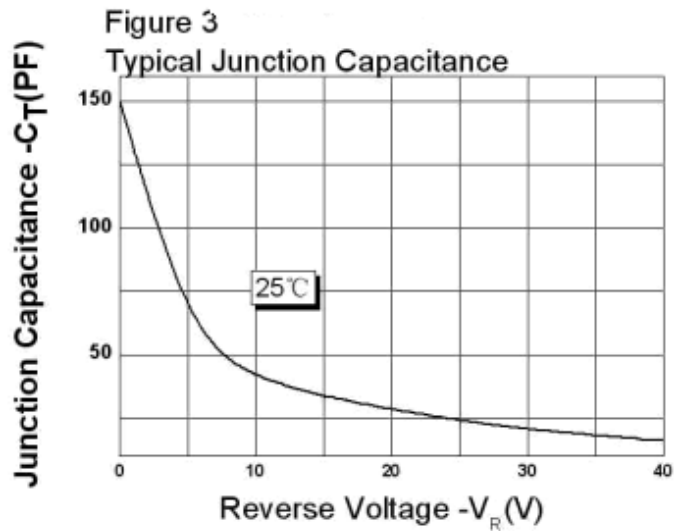
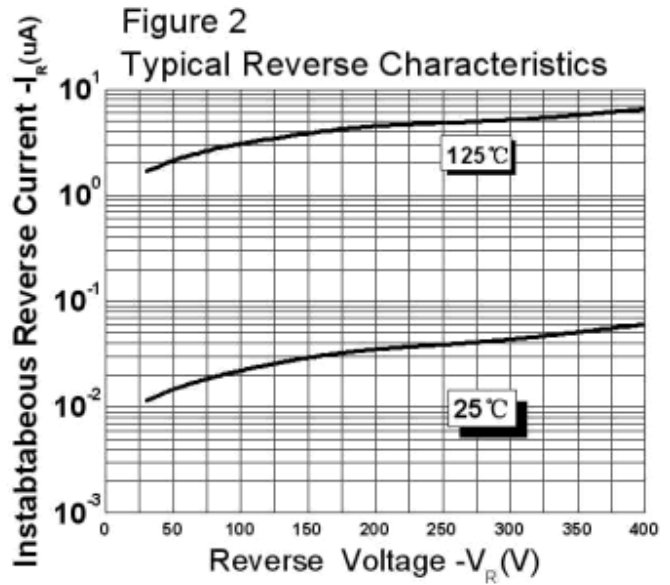
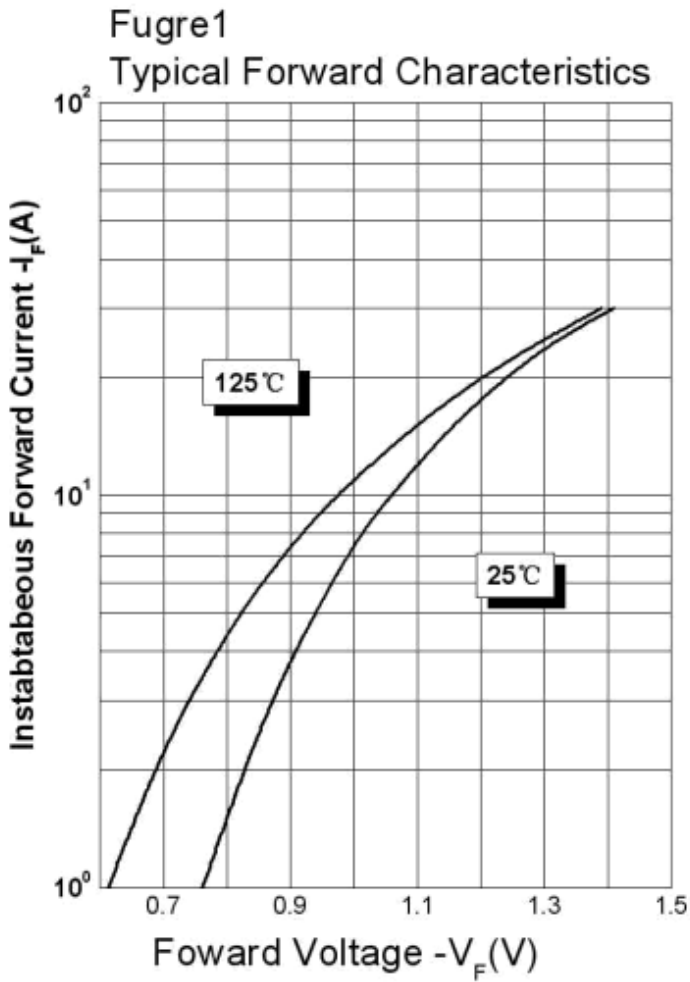
**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	$V_{F1}$	@8A, Pulse, $T_J = 25^\circ\text{C}$	1.3	V
	$V_{F2}$	@8A, Pulse, $T_J = 125^\circ\text{C}$	1.2	V
Max. Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	10	$\mu\text{A}$
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	500	$\mu\text{A}$
Max. Reverse Recovery Time	$t_{rr}$	$I_F = 500\text{mA}$ , $I_R = 1\text{A}$ , and $I_{rm} = 250\text{mA}$	45	ns

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	$T_J$	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	5	$^\circ\text{C} / \text{W}$
Approximate Weight	wt	-	2.0/1.85/0.39	g
Case Style	TO-220AB/D <sup>2</sup> PAK/DPAK			





**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..