

## SDURB540 ULTRAFAST PLASTIC RECTIFIER

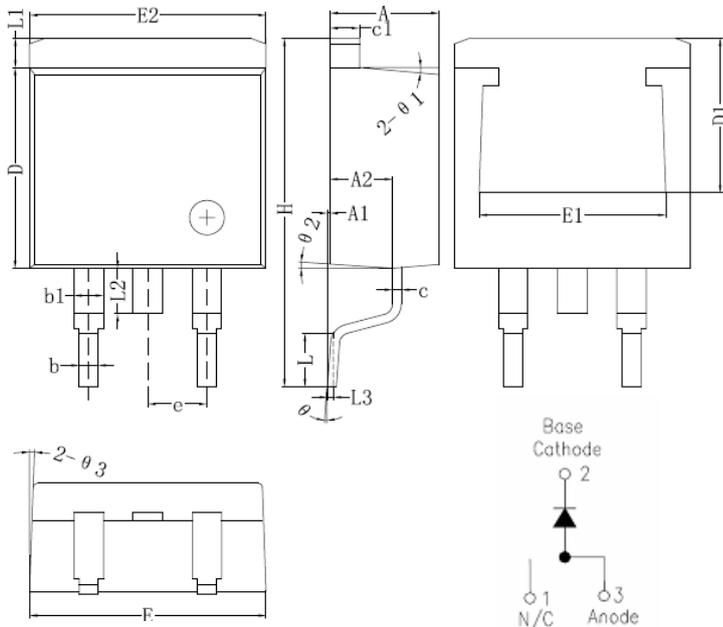
### Applications:

- 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 mm

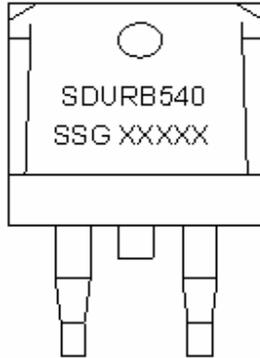


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40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

### D<sup>2</sup> PAK



**Marking Diagram:**



Where XXXXX is YYWWL

- SDUR = Device Type
- B = Package type
- 5 = Forward Current (5A)
- 40 = Reverse Voltage (400V)
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
SDURB540	D <sup>2</sup> PAK (Pb-Free)	800 pcs / 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	$V_{RWM}$	-	400	V
Average Forward Current	$I_{O(AV)}$	50% duty cycle $T_C=105^{\circ}C$ , rectangular wave form	5	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	50Hz, Half Sine wave	80	A



**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop	$V_F$	@ $I_F = 5A$ , Pulse, $T_J = 25^\circ C$	1.3	V
Reverse Current	$I_R$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ C$	30	$\mu A$
Reverse Recovery Time	$t_{rr}$	$I_F = 500mA$ , $I_R = 1A$ , and $I_{rm} = 250mA$	45	ns

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

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	$^\circ C$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ C$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	-	3.5	$^\circ C / W$
Approximate Weight	wt	-	1.85	g
Case Style		D <sup>2</sup> PAK		

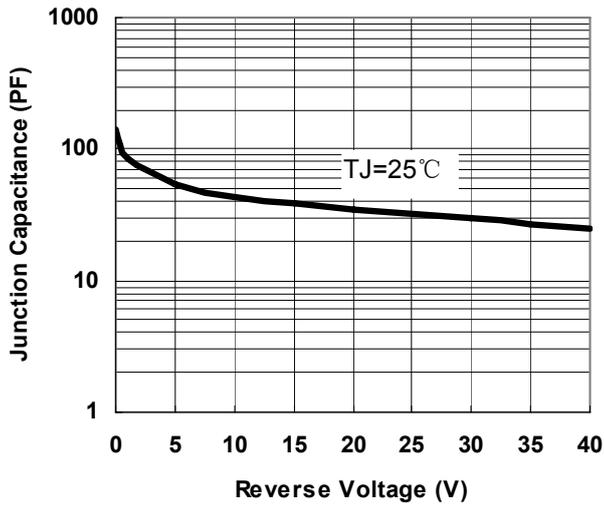


Fig.1-Typical Junction Capacitance

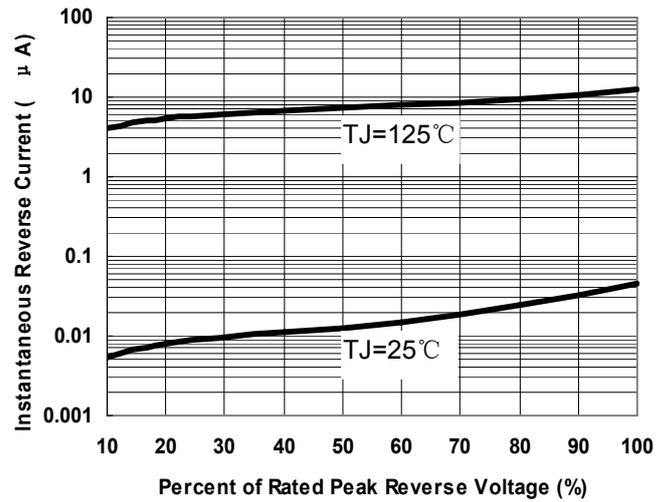


Fig.2-Typical Reverse Characteristics

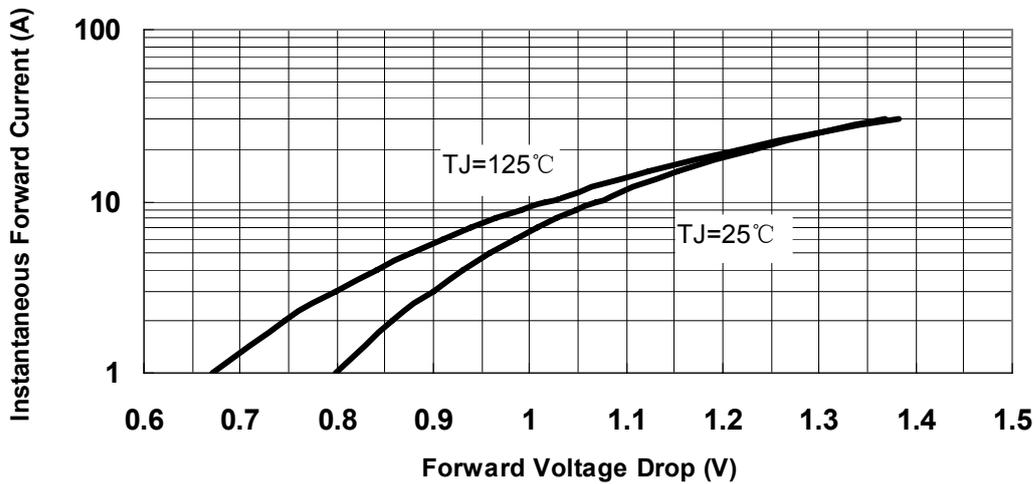


Fig.3-Typical Instantaneous Forward Voltage Characteristics



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