

## SDURB1040CT ULTRAFAST PLASTIC RECTIFIER

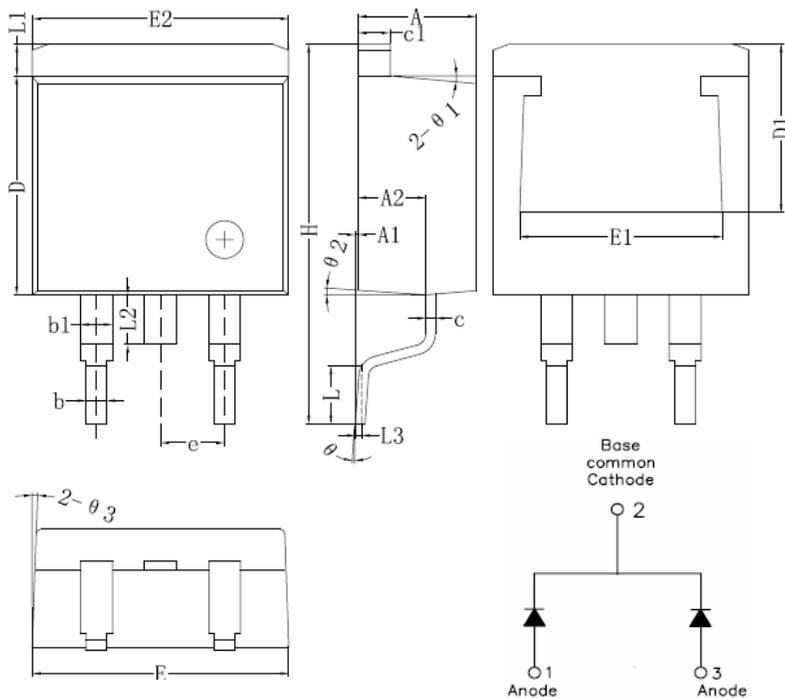
### Applications:

- 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
- 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

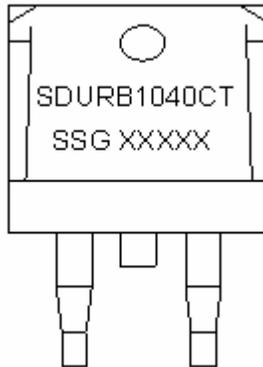


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40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

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

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

Technical Data  
Data Sheet N0393, Rev. -

**Marking Diagram:**


Where XXXXX is YYWWL

SDUR = Device Type  
 B = Package type  
 10 = Forward Current (10A)  
 40 = Reverse Voltage (400V)  
 CT = Configuration  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
SDURB1040CT	D <sup>2</sup> PAK (Pb-Free)	800pcs/ 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 Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	400	V
Average Forward Current	$I_{O(AV)}$	50% duty cycle $T_C=112^{\circ}\text{C}$ , rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3ms, Half Sine pulse	80	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	$V_F$	@ $I_F=5A$ , Pulse, $T_J = 25^\circ C$	1.3	V
Reverse Current(per leg) *	$I_R$	@ $V_R =$ 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	$^\circ C$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	3.5	$^\circ C / W$
Approximate Weight	wt	-	1.85	g
Case Style	D2PAK			

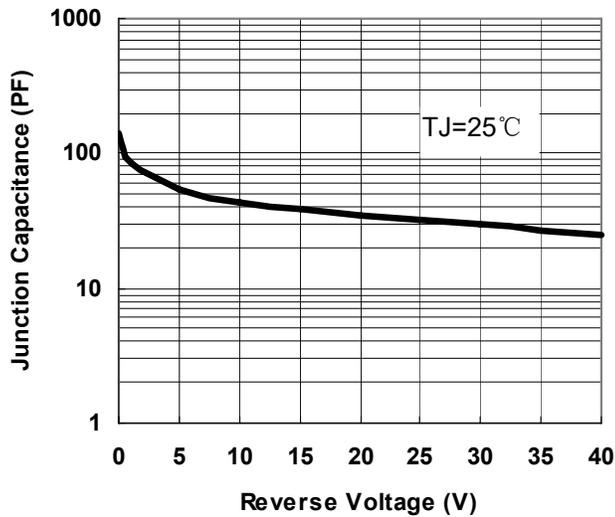


Fig.1-Typical Junction Capacitance

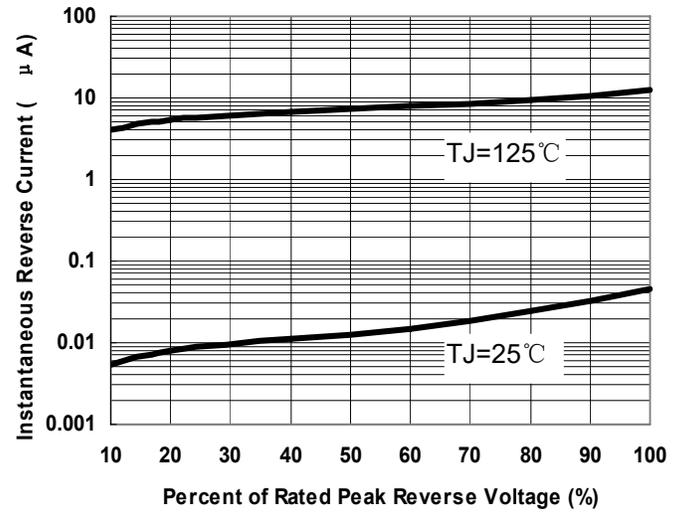


Fig.2-Typical Reverse Characteristics

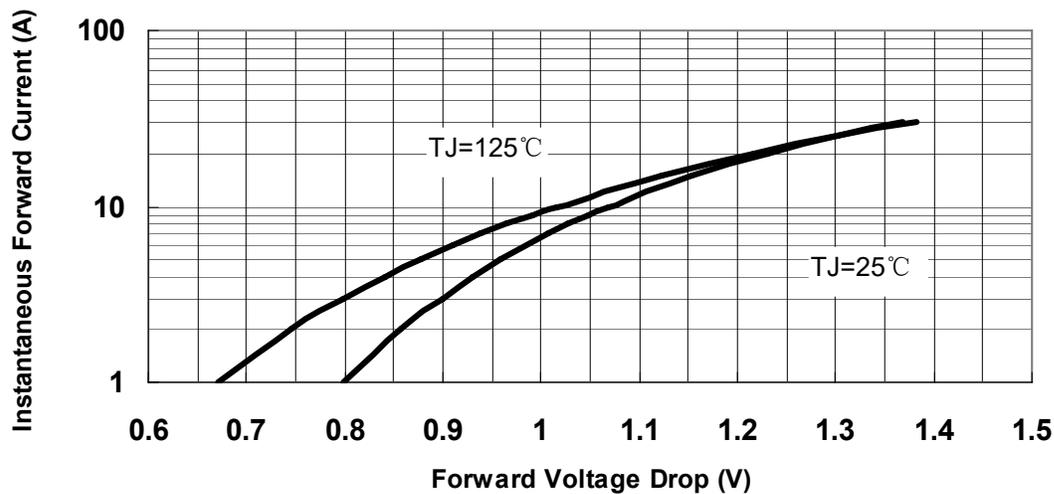


Fig.3-Typical Instantaneous Forward Voltage Characteristics



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