

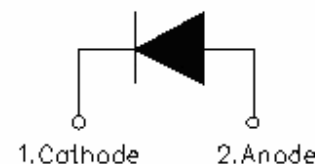
## SDUR12100 ULTRAFAST PLASTIC RECTIFIER

### Applications:

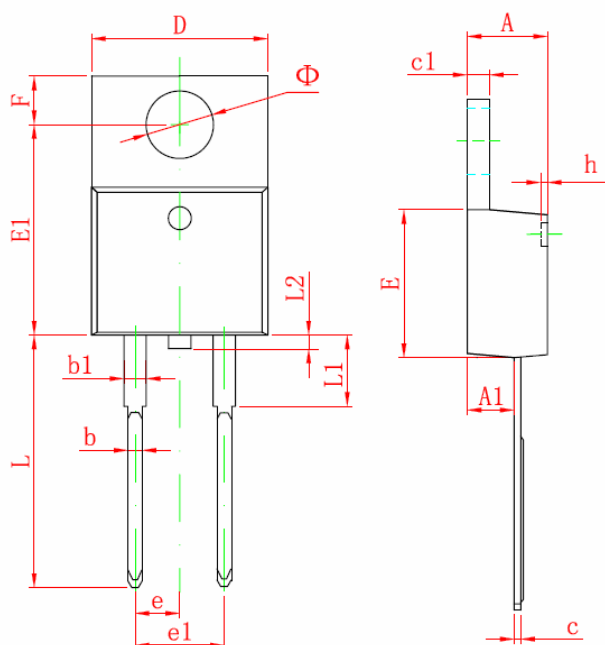
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners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



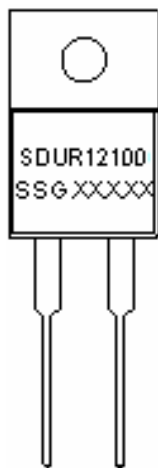
### Mechanical Dimensions (In mm) and Marking:



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.470	4.670
A1	2.520	2.820
b	0.710	0.910
b1	1.170	1.370
c	0.310	0.530
c1	1.170	1.370
D	10.010	10.310
E	8.500	8.900
E1	12.060	12.460
e	2.540 TYP	
e1	4.980	5.180
F	2.590	2.890
h	0.000	0.300
L	13.400	13.800
L1	3.560	3.960
L2		1.000
Φ	3.735	3.935

**TO-220AC**

**Marking Diagram:**



Where XXXXX is YYWWL

SDUR = Device Type  
12 = Forward Current (12A)  
100 = Reverse Voltage (1000V)  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
SDUR12100	TO-220AC (Pb-Free)	50pcs / tube

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	$V_{RWM}$	-	1000	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_c=100^{\circ}C$ , rectangular wave form	12	A
Max. Peak One Cycle Non- Repetitive Surge Current	$I_{FSM}$	$T_J = 45^{\circ}C$ 8.3ms, Half Sine pulse	80	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	$V_{F1}$	@ 12A, Pulse, $T_J = 25^\circ\text{C}$	2.7	V
	$V_{F2}$	@ 12A, Pulse, $T_J = 150^\circ\text{C}$	2.1	V
Max. Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	150	$\mu\text{A}$
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	4000	$\mu\text{A}$
Max. Reverse Recovery Time	$t_{rr}$	$I_F = 1\text{A}$ , $-di/dt = 50\text{A}/\mu\text{s}$ , $V_R = 30\text{V}$ , and $T_J = 25^\circ\text{C}$	50	ns

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

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	$T_J$	-	-40 to +150	$^\circ\text{C}$
Max. Storage Temperature	$T_{stg}$	-	-40 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{thJC}$	DC operation	1.6	K/W
Approximate Weight	wt	-	1.6	g
Case Style	TO-220AC			

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