

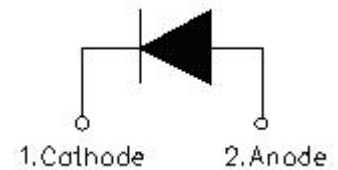
## SUR1560 ULTRAFAST RECTIFIER

**Applications:**

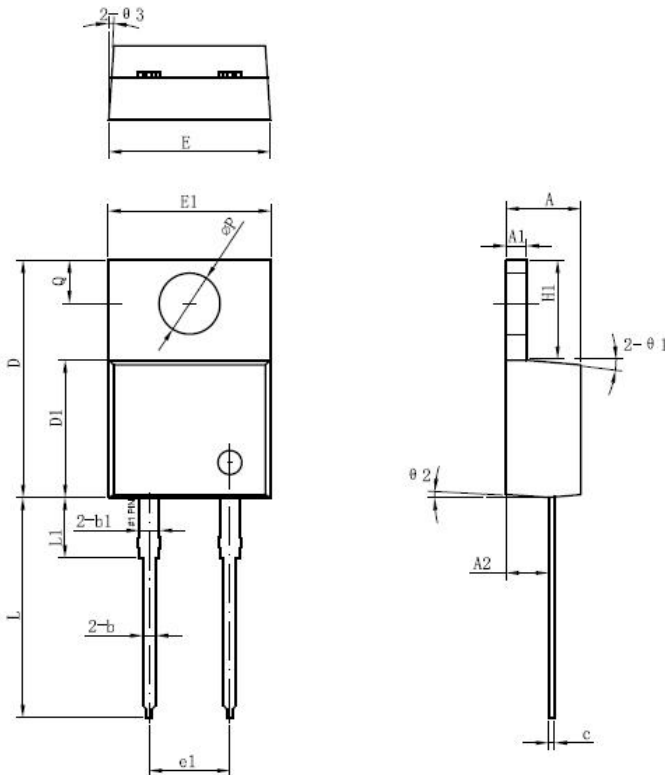
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners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



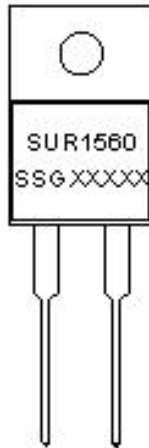
**Mechanical Dimensions: In mm**



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	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	14.64	14.94	15.24
D1	8.55	8.07	8.85
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1		5.08	
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1		3.80	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		5°	
θ2		4°	
θ3		4°	

**TO-220AC**

**Marking Diagram:**



Where XXXXX is YYWWL

SUR = Device Type  
 15 = Forward Current (15A)  
 60 = Reverse Voltage (600V)  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
SUR1560	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 Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	600	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @TC =100°C rectangular wave form	15	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	125	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 15A, Pulse, T <sub>J</sub> = 25°C	2.4	V
	V <sub>F2</sub>	@ 15A, Pulse, T <sub>J</sub> = 100°C	2.0	V
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = rated VR T <sub>J</sub> = 25°C	5	μA
	I <sub>R2</sub>	@V <sub>R</sub> = rated VR T <sub>J</sub> = 100°C	50	μA
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =500mA, I <sub>R</sub> =1A,and I <sub>rm</sub> =250mA	50	ns

\* Pulse Width < 300μs, Duty Cycle <2%

Measured lead to lead 5 mm from package body

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	R <sub>θJC</sub>	DC operation	4.0	°C/W
Approximate Weight	wt	-	1.6	g
Case Style	TO-220AC			

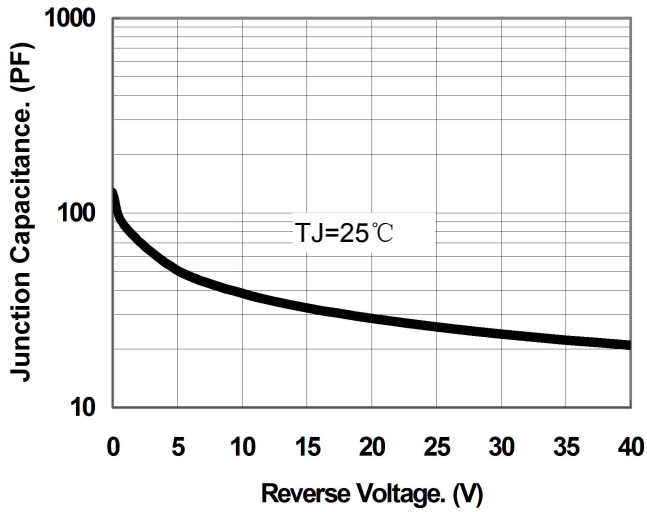


Fig.1-Typical Junction Capacitance

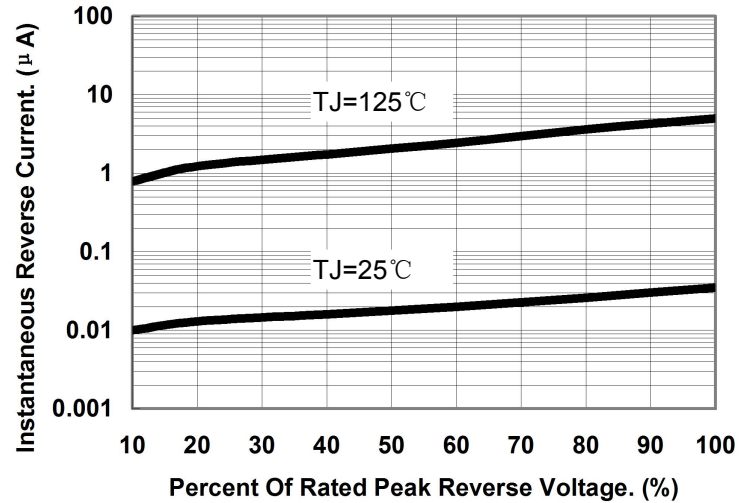


Fig.2-Typical Reverse Characteristics

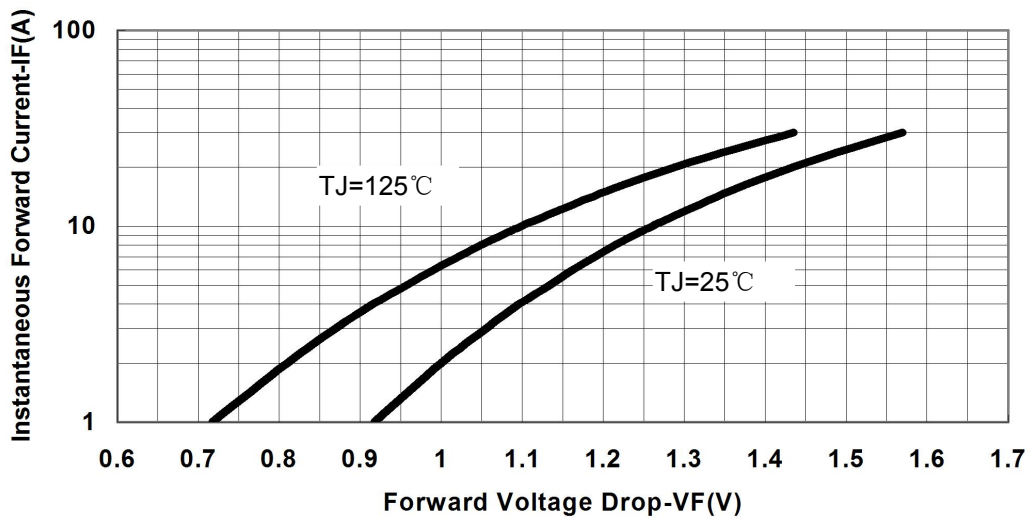


Fig.3-Typical Forward Voltage Drop Characteristics

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