

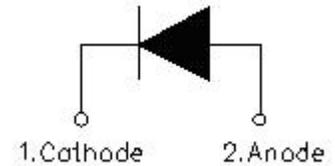
## SURF1060 ULTRAFAST RECTIFIER

### Applications:

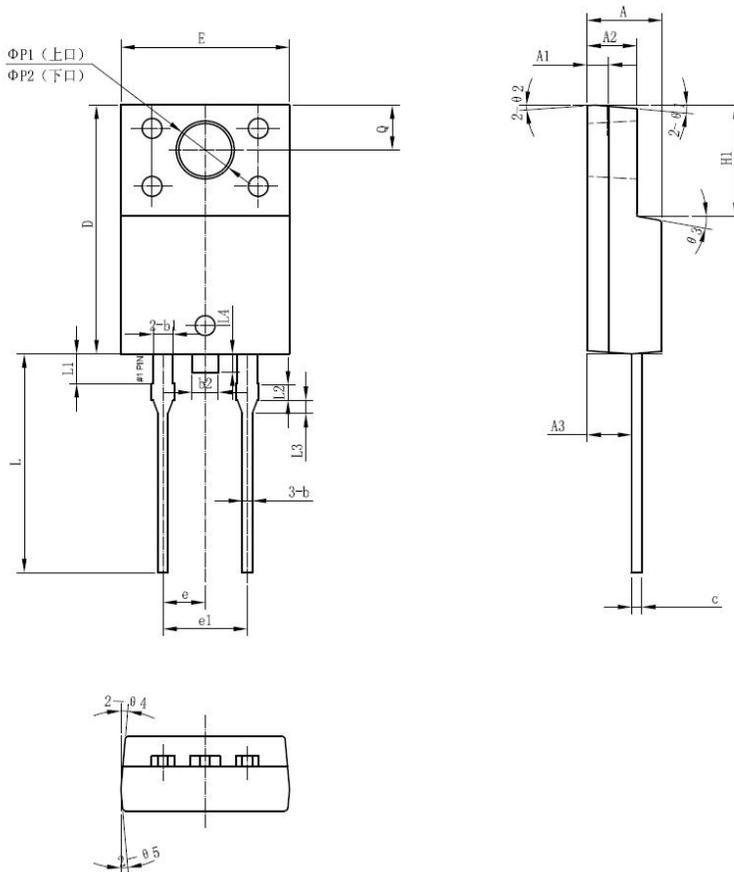
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners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

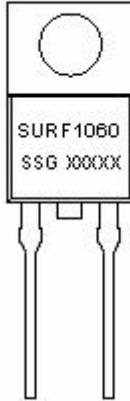


SYMBOL	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	1.10	1.30	1.50
A2	2.80	3.00	3.20
A3	2.50	2.70	2.90
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
b2	1.50	1.60	1.75
c	0.55	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e	-	2.55	-
e1	-	5.10	-
H1	6.50	6.70	6.90
L	12.70	13.20	13.70
L1	1.60	1.80	2.00
L2	0.80	1.00	1.20
L3	0.60	0.80	1.00
L4	-	1.10	1.50
ΦP1(上□)	3.30	3.50	3.70
ΦP2(下□)	2.99	3.19	3.39
Q	2.50	2.70	2.90
Θ1		5°	
Θ2		4°	
Θ3		10°	
Θ4		5°	
Θ5		5°	

### ITO-220AC(HD)

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

**Marking Diagram:**



Where XXXXX is YYWWL

SUR = Device Type  
 F = Package Type  
 10 = Forward Current (10A)  
 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
SURF1060	ITO-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	10	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	110	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 10A, Pulse, T <sub>J</sub> = 25°C	2.2	V
	V <sub>F2</sub>	@ 10 A, 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
RSM Isolation Voltage (t=1.0 second, R.H.<=30%, T <sub>A</sub> =25°C)	V <sub>150</sub>	Clip mouting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction.	4500	V
		Clip mouting, the epoxy body is inside the heatsink	3500	
		Screw mounting, the epoxy body is inside the heatsink	1500	

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

**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	ITO-220AC			

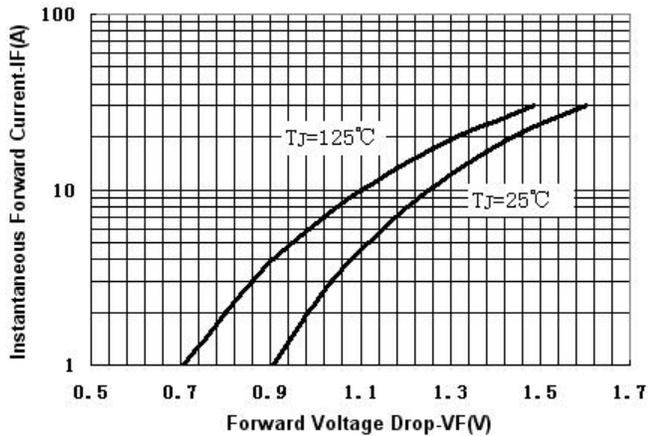


Fig.1-Typical Forward Voltage Drop Characteristics

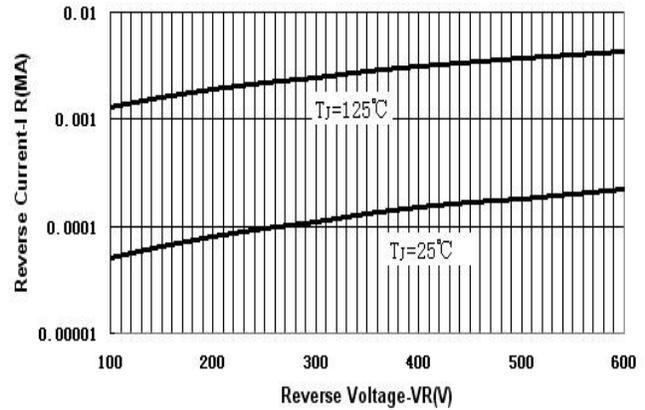


Fig.2-Typical Values of Reverse Current Vs. Reverse Voltage

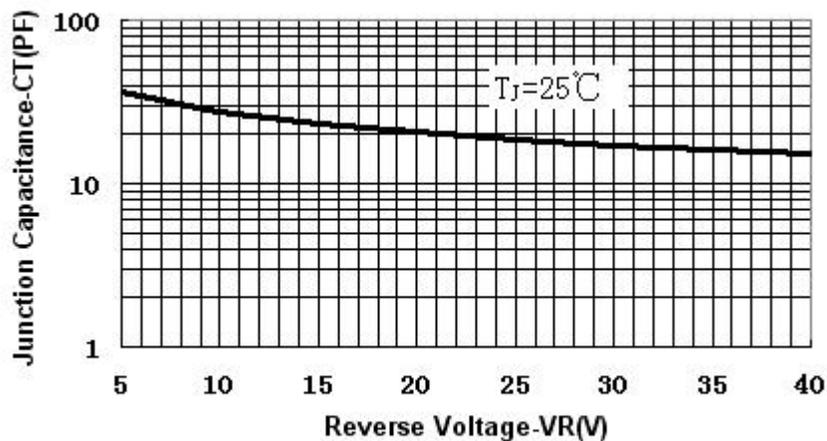


Fig.3-Typical Junction Capacitance Vs.Reverse Voltage

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