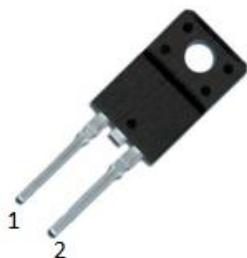


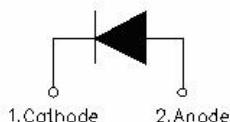
## SDURF1020 ULTRAFAST RECTIFIER


**ITO-220AC**

### 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

### Circuit Diagram



### 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

### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	-		
Working Peak Reverse Voltage	$V_{RWM}$		200	V
DC Blocking Voltage	$V_R$			
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c=75^\circ C$ , rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3ms, Half Sine pulse	125	A

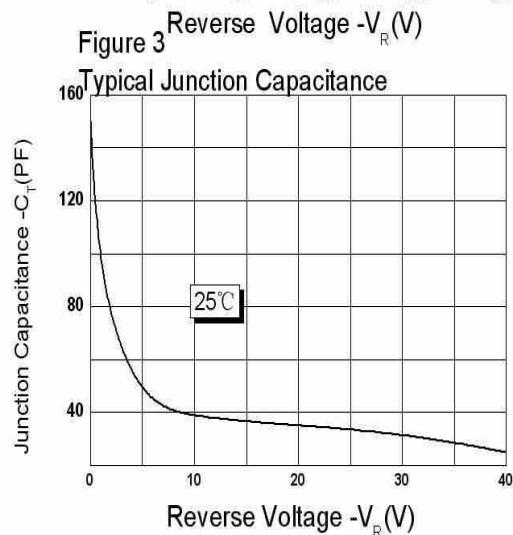
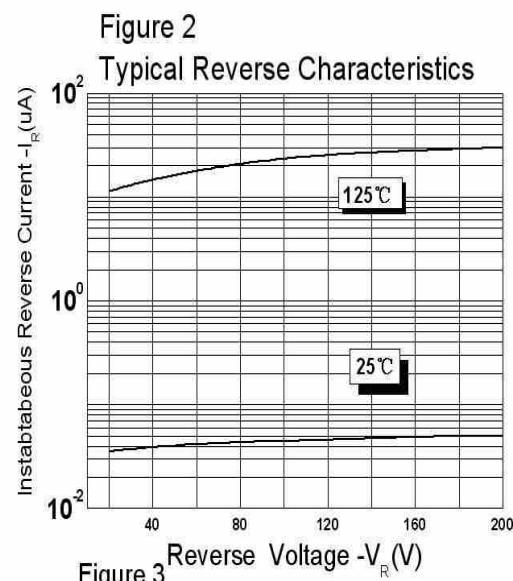
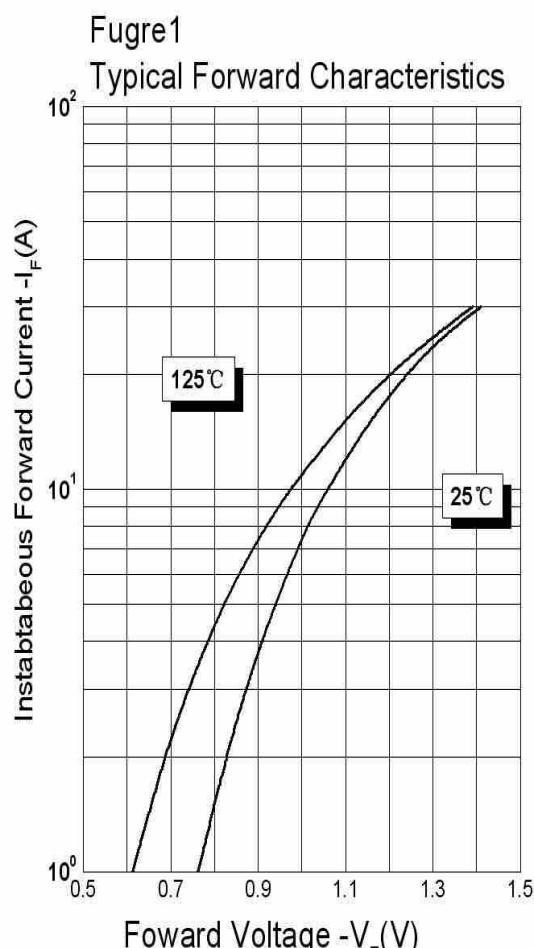
### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	$V_{F1}$	@10A, Pulse, $T_J = 25^\circ C$	1.06	1.15	V
Reverse Current *	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^\circ C$	0.05	15	$\mu A$
Reverse Recovery Time	$t_{rr}$	$I_F=500mA$ , $I_R=1A$ , and $I_{rm}=250mA$	31	35	ns

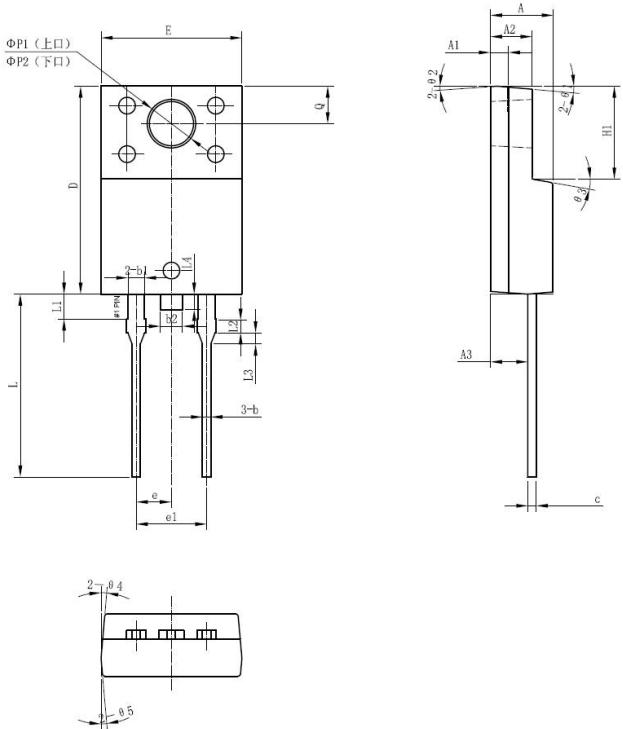
\* Pulse width < 300  $\mu s$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	°C
Storage Temperature	$T_{stg}$	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{thJC}$	DC operation	1.6	°C/W
Approximate Weight	wt	-	1.60	g
Case Style			ITO-220AC	

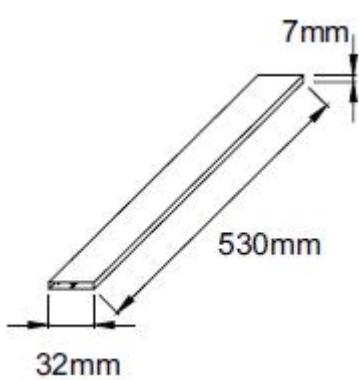
**Ratings and Characteristics Curves**


### Mechanical Dimensions ITO-220AC

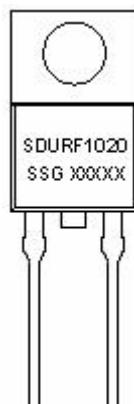


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	1.10	1.30	1.50
A2	2.80	3.00	3.20
A3	2.50	2.70	2.90
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
b2	1.50	1.60	1.75
c	0.55	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e	-	2.55	-
e1	-	5.10	-
H1	6.50	6.70	6.90
L	12.70	13.20	13.70
L1	1.60	1.80	2.00
L2	0.80	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°	

### Tube Specification



### Marking Diagram



Where XXXXX is YYWWL

SDUR = Device Type  
 F = Package type  
 10 = Forward Current (10A)  
 20 = Reverse Voltage (200V)  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

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

### Ordering Information:

Device	Package	Shipping
SDURF1020	ITO-220AC (Pb-Free)	50 pcs/ tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

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

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[DB206S](#) [DB156](#) [BAV199](#) [DL4007](#) [2CL3512H](#) [1SS181,LF\(T](#) [CRG09A,LXGQ](#) [CRG09A,LQ\(M](#) [DB106](#) [SDUR1530](#) [S2KTR](#) [S2MTR](#)  
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