Technical Data *Green Products*

Data Sheet N0056, Rev. B

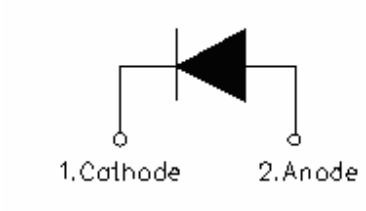
SDURF1060A ULTRAFAST PLASTIC RECTIFIER

Applications:

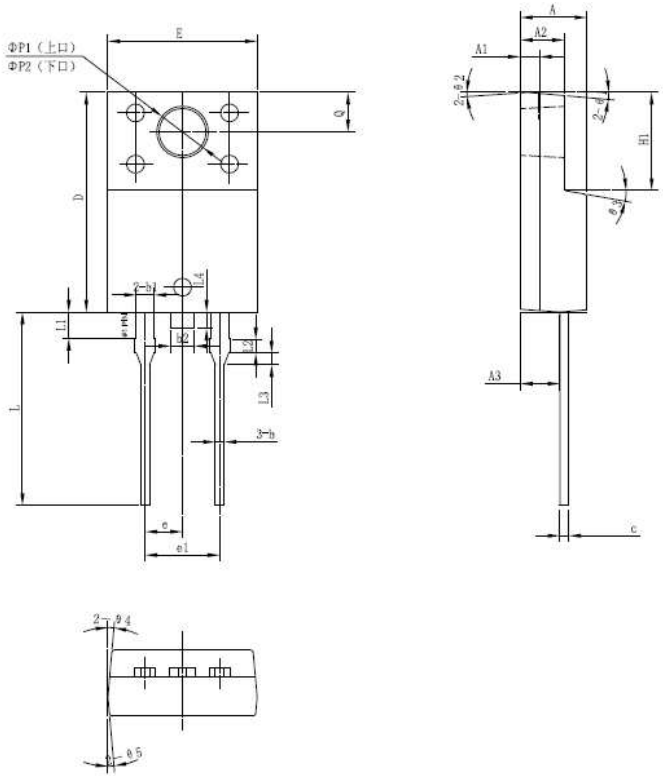
- **Antiparallel diode for high frequency switching devices**
- **Anti saturation diode**
- **Snubber diode**
- **Free wheeling diode in converters and motor control circuits**
- **Rectifiers in switch mode power supplies (SMPS)**
- **Inductive heating and melting**
- **Uninterruptible power supplies (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-O**
- **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(上口)	3.30	3.50	3.70
ΦP2(下口)	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)

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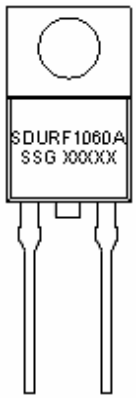
Marking Diagram:



Where XXXXX is YYWWL

SDUR = Device Type
F = Package type
10 = Forward Current (10A)
60 = Reverse Voltage (600V)
A = A
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information:

Device	Package	Shipping
SDURF1060A	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.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	600	V
Average Forward Current	$I_{F\ (AV)}$	50% duty cycle @Tc=105℃, rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current (Per leg)	I_{FSM}	8.3ms, Half Sine pulse	100	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 10A, Pulse, T_J = 25°C	-	2.2	V
	V_{F2}	@ 10A, Pulse, T_J = 100°C	-	2.0	V
Reverse Current*	I_{R1}	@V_R = rated V_R T_J = 25°C	-	10	μA
	I_{R2}	@V_R = rated V_R T_J = 125°C	-	500	μA
Reverse Recovery Current *	I_{RM}	I_F=12A, V_R=100V,-di$_F$/dt=100A/us T_J = 100°C	-	4.4	A
Reverse Recovery Time	t_{rr1}	I_F=500mA, I_R=1A,and I_{rm}=250mA	-	35	ns
Reverse Recovery Time	t_{rr2}	I_F=1A, V_R=30V,-di$_F$/dt=50A/us T_J = 25°C	35	-	ns

* Pulse width < 300 μs, 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
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	6.0	°C/W
Approximate Weight	wt	-	1.65	g
Case Style	ITO-220AC			

Figure 1. Typical Forward Voltage Drop vs. Forward Current

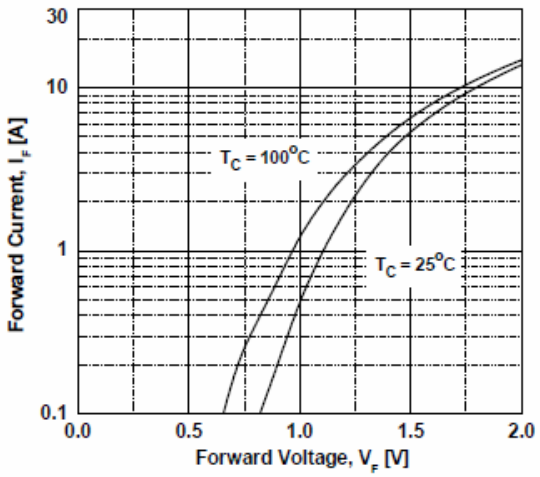


Figure 2. Typical Reverse Current vs. Reverse Voltage

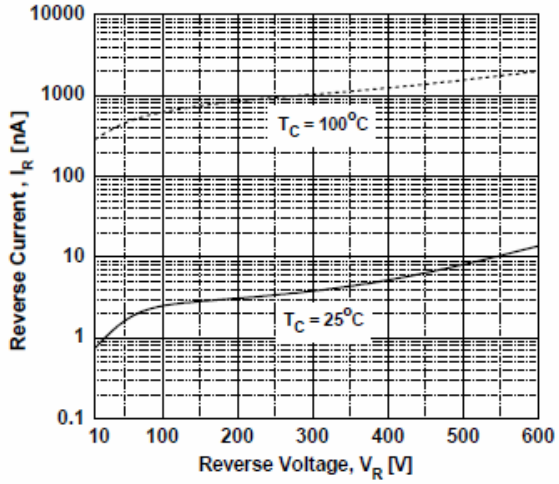


Figure 3. Typical Junction Capacitance

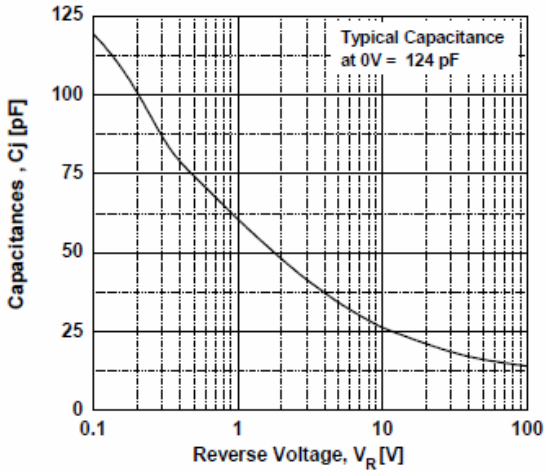


Figure 4. Typical Reverse Recovery Time vs. di/dt

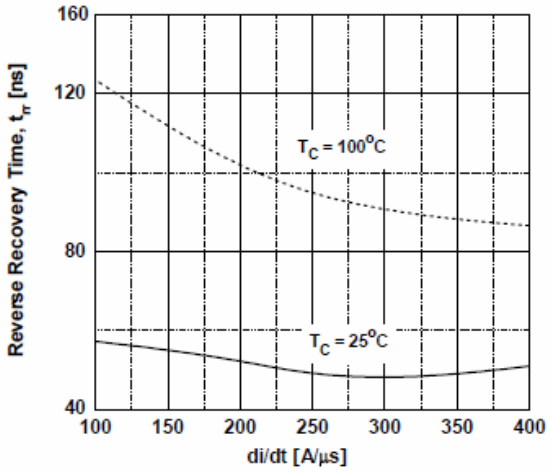


Fig.5- Trr Waveforms and Definitions