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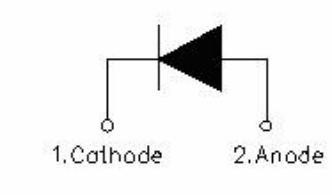
SDURK10U60 ULTRAFAST RECTIFIER

ITO-220AC-2L

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
- Terminals finish: 100% Pure Tin
- This is a Pb − free device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Maximum Ratings(limiting values, T_C =25°C unless otherwise specified)

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 Rectified Forward Current	$I_{F\ (AV)}$	50% duty cycle @Tc=105°C, rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	100	A

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Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@10A, Pulse, T_J = 25°C	1.7	2.6	V
	V_{F2}	@10A, Pulse, T_J = 125°C	1.5	2.3	V
Reverse Current*	I_{R1}	@V_R = rated V_R, T_J = 25°C	0.005	10	uA
	I_{R2}	@V_R = rated V_R, T_J = 125°C	4	500	uA
Reverse Recovery Time	t_{rr}	I_F=500mA, I_R=1A,and I_{rm}=250mA, T_J = 25°C	19	25	ns
Reverse Recovery Time	t_{rr}	I_F=2A,V_R=400V,di/dt=200A/us,T_J = 25°C	27	-	ns
Reverse Recovery Charge	Q_{rr}		37	-	nC
Reverse Recovery Current	I_{rr}		2.7	-	A
Reverse Recovery Time	t_{rr}	I_F=5A,V_R=400V,di/dt=200A/us,T_J = 25°C	34	-	ns
Reverse Recovery Charge	Q_{rr}		54	-	nC
Reverse Recovery Current	I_{rr}		3.2	-	A
Reverse Recovery Time	t_{rr}	I_F=5A,V_R=400V, di/dt=200A/us, T_J = 125°C	54	-	ns
Reverse Recovery Charge	Q_{rr}		140	-	nC
Reverse Recovery Current	I_{rr}		5	-	A

* 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
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.0	°C/W
Approximate Weight	wt	-	1.6	g
Case Style	ITO-220AC-2L			

Ratings and Characteristics Curves

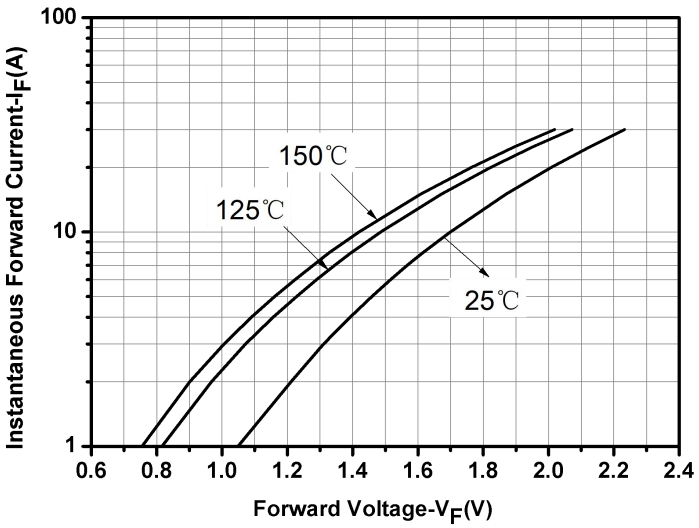


Fig.1-Typical Forward Voltage Characteristics

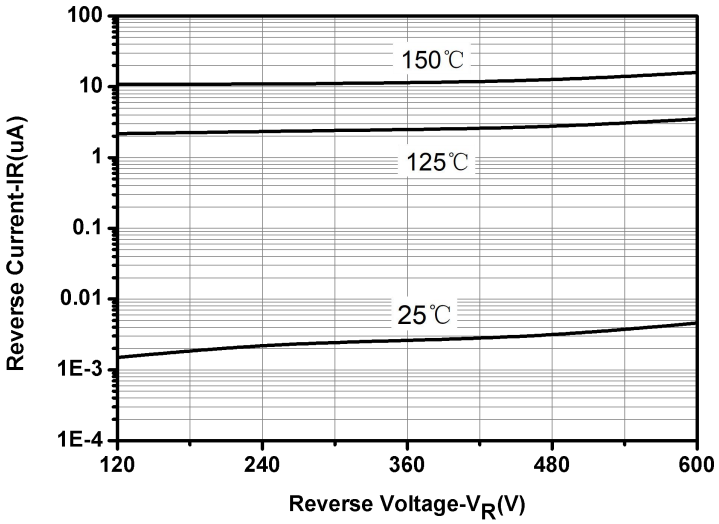


Fig.2-Typical Reverse Characteristics

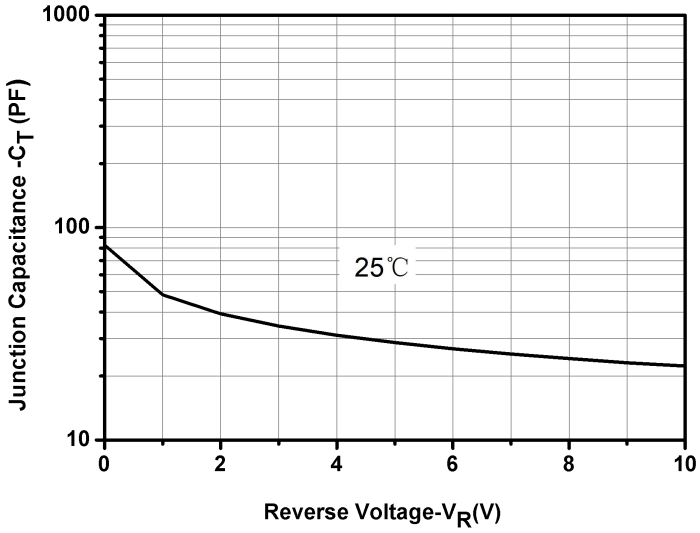


Fig.3-Capacitance vs. Reverse Voltage

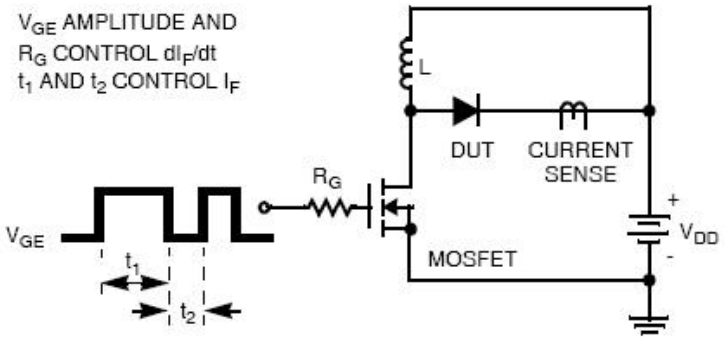
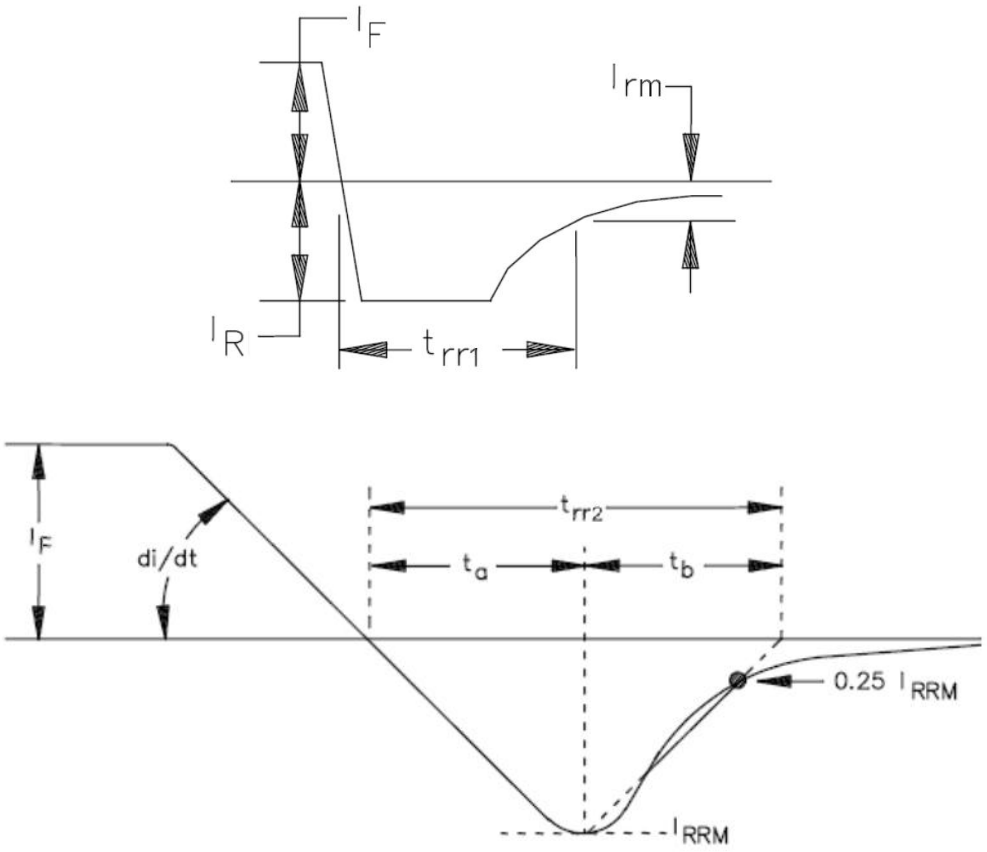


Fig.4-Diode Test Circuit



Note: 1. t_{rr1} MIL-STD-750 Test Method 4031, condition "B".
2. t_{rr2} MIL-STD-750 Test Method 4031, condition "D" .

Fig.5-Reverse Recovery Waveform

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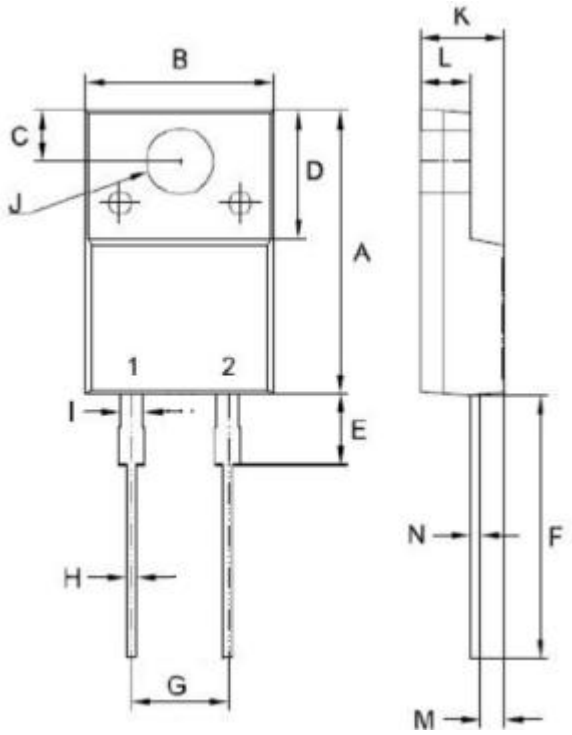
Mechanical Dimensions ITO-220AC-2L

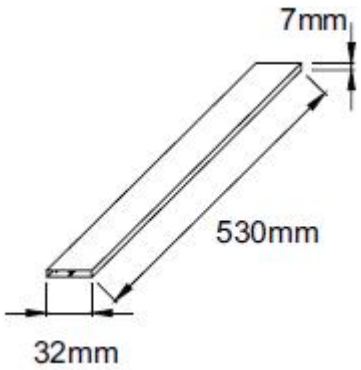


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	14.50	15.30	16.00
B	9.50	10.00	10.50
C	2.50	3.00	3.5
D	6.30	6.80	7.30
E	3.10	3.70	4.30
F	13.00	13.5	14.00
G	4.90	5.10	5.30
H	0.30	0.60	0.90
I	0.90	1.2	1.50
J	3.20	3.50	3.80
K	4.24	4.54	4.84
L	2.30	2.61	2.92
M	1.09	1.29	1.49
N	0.42	0.53	0.63

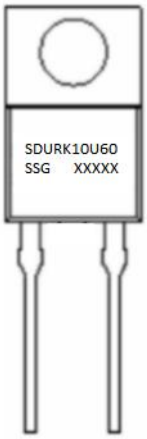
Ordering Information:

Device	Package	Plating	Shipping
SDURK10U60	ITO-220AC-2L (Pb-Free)	Pure Sn	50 pcs/ tube

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

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

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

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