

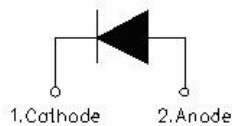
SDURK2060 ULTRAFAST RECTIFIER



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

Circuit Diagram



Features

- Ultra-Fast switching
- High current capability
- Low reverse leakage current
- High surge current capability
- This is a Pb - Free Device
- Terminals finish: 100% Pure Tin
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Maximum Ratings@T_A=25°C unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	600	V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
Average Rectified Forward Current in DC	I _{F(AV)}	T _c =102°C	20	A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3ms, Half Sine pulse	160	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V_{F1}	@20A, Pulse, $T_J = 25^\circ\text{C}$	1.50	2.00	V
	V_{F2}	@20A, Pulse, $T_J = 125^\circ\text{C}$	1.46	1.60	V
Reverse Current *	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	0.03	100	μA
	I_{R2}	@ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$	166	500	μA
Reverse Recovery Time	t_{rr}	$I_F = 500\text{mA}$, $I_R = 1\text{A}$, and $I_{rm} = 250\text{mA}$	33	50	ns
Reverse Recovery Time	t_{rr}	$I_F = 20\text{A}$, $diF/dt = 200\text{A}/\mu\text{s}$ $V_R = 400\text{V}$, $T_J = 25^\circ\text{C}$	76	-	ns
Reverse Recovery Charge	Q_{rr}		182	-	nC
Reverse Recovery Current	I_{RRM}		4.8	-	A
Reverse Recovery Time	t_{rr}	$I_F = 20\text{A}$, $diF/dt = 200\text{A}/\mu\text{s}$ $V_R = 400\text{V}$, $T_J = 125^\circ\text{C}$	120	-	ns
Reverse Recovery Charge	Q_{rr}		360	-	nC
Reverse Recovery Current	I_{RRM}		6	-	A
Reverse Recovery Time	t_{rr}	$I_F = 1\text{A}$, $diF/dt = 100\text{A}/\mu\text{s}$ $V_R = 30\text{V}$, $T_J = 25^\circ\text{C}$	32.5	-	ns
Reverse Recovery Charge	Q_{rr}		35	-	nC
Reverse Recovery Current	I_{RRM}		2.14	-	A
Reverse Recovery Time	t_{rr}	$I_F = 1\text{A}$, $diF/dt = 100\text{A}/\mu\text{s}$ $V_R = 30\text{V}$, $T_J = 125^\circ\text{C}$	55	-	ns
Reverse Recovery Charge	Q_{rr}		85	-	nC
Reverse Recovery Current	I_{RRM}		3.08	-	A

* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.5	$^\circ\text{C}/\text{W}$
Approximate Weight	wt	-	1.6	g
Case Style		ITO-220AC-2L		

Ratings and Characteristics Curves

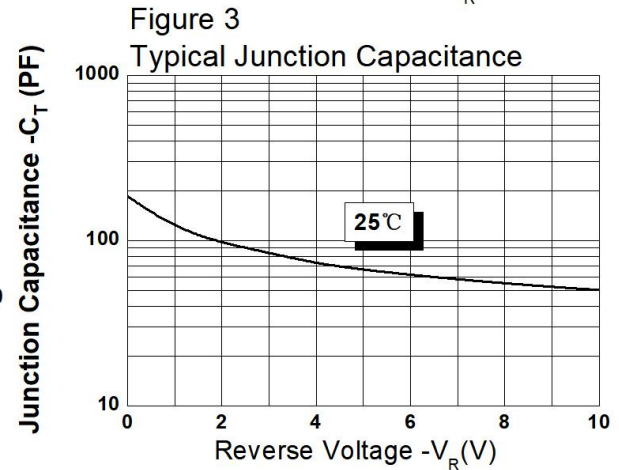
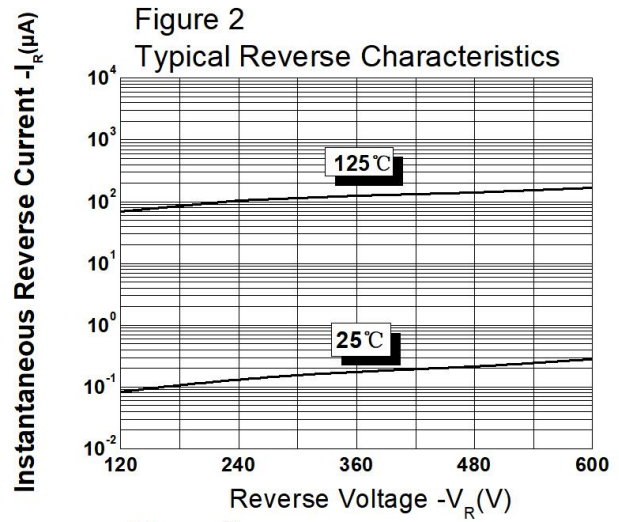
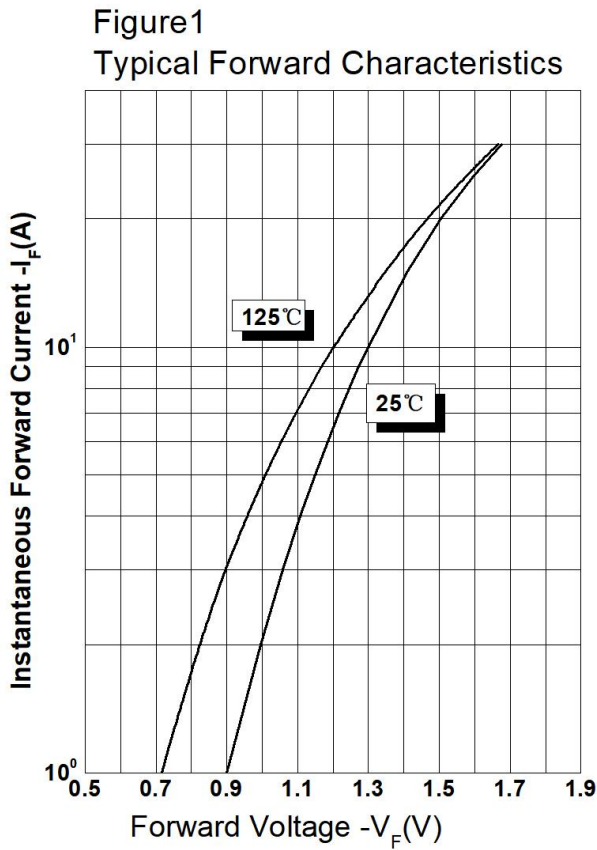
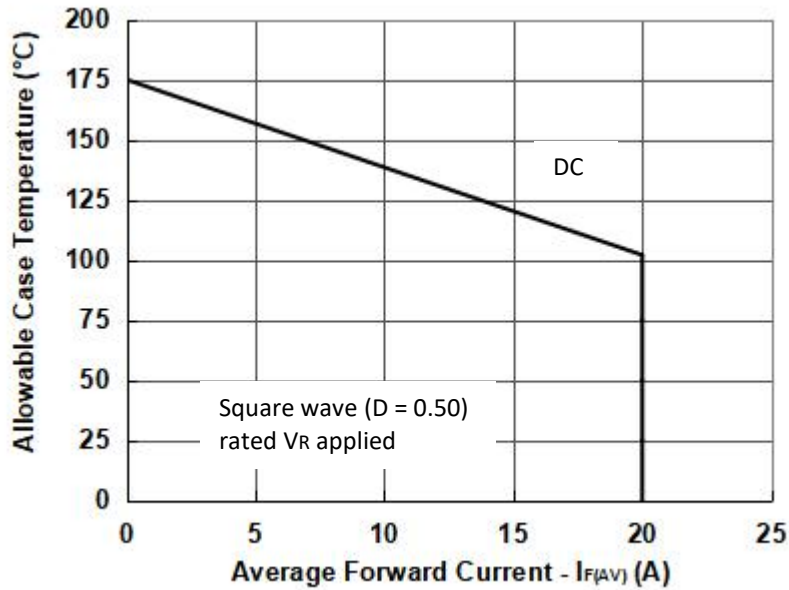
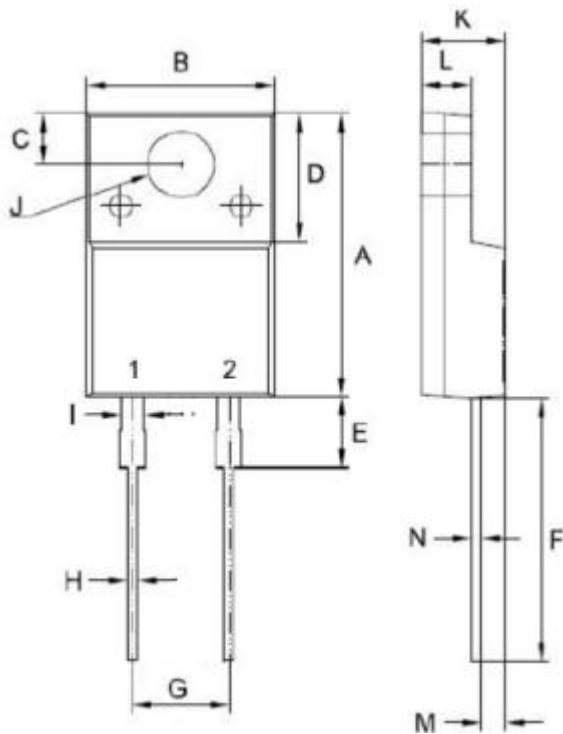


Figure 4
Maximum Allowable Case Temperature vs.
Average Forward Current

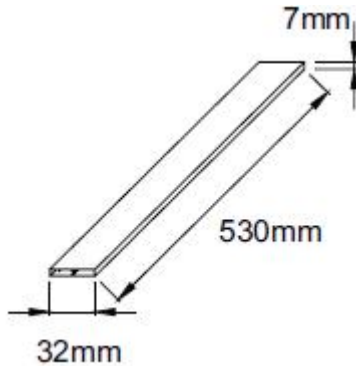


Mechanical Dimensions ITO-220AC-2L

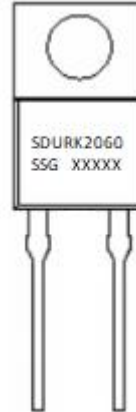


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	14.80	15.00	15.20
B	9.80	10.00	10.20
C	2.50	2.70	2.90
D	6.55	6.75	6.95
E	3.65	3.85	4.05
F	13.30	13.50	13.70
G	4.85	5.05	5.25
H	0.40	0.60	0.80
I	1.10	1.30	1.50
J	3.25	3.45	3.65
K	4.25	4.45	4.65
L	2.52	2.72	2.92
M	1.09	1.29	1.49
N	0.47	0.55	0.63

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

SDUR = Device Type
K = Package type
20 = Forward Current (20A)
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
SDURK2060	ITO-220AC-2L (Pb-Free)	50 pcs/ tube

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