

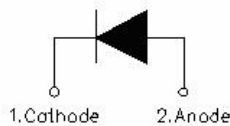
SDURK20F60 ULTRAFAST RECTIFIER



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 =75°C	20	A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3ms, Half Sine pulse	180	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V _{F1}	@20A, Pulse, T _J = 25°C	1.65	2.00	V
	V _{F2}	@20A, Pulse, T _J = 125°C	1.45	1.70	V
Reverse Current *	I _{R1}	@V _R = rated V _R , T _J = 25°C	0.02	10	μA
	I _{R2}	@V _R = rated V _R , T _J = 125°C	7.5	200	uA
Reverse Recovery Time	t _{rr}	I _F =500mA, I _R =1A, and I _{rm} =250mA	24	40	ns
Reverse Recovery Time	t _{rr}	I _F = 20A, diF/dt = 200A/μs V _R = 400V, T _J = 25°C	35	-	ns
Reverse Recovery Charge	Q _{rr}		74	-	nC
Reverse Recovery Current	I _{RRM}		3.6	-	A
Reverse Recovery Time	t _{rr}	I _F = 20A, diF/dt = 200A/μs V _R = 400V, T _J = 125°C	103	-	ns
Reverse Recovery Charge	Q _{rr}		418	-	nC
Reverse Recovery Current	I _{RRM}		7	-	A

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T _J	-	-55 to +175	°C
Storage Temperature	T _{stg}	-	-55 to +175	°C
Typical Thermal Resistance Junction to Case	R _{θJC}	DC operation	2.5	°C/W
Approximate Weight	wt	-	1.6	g
Case Style	ITO-220AC-2L			

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

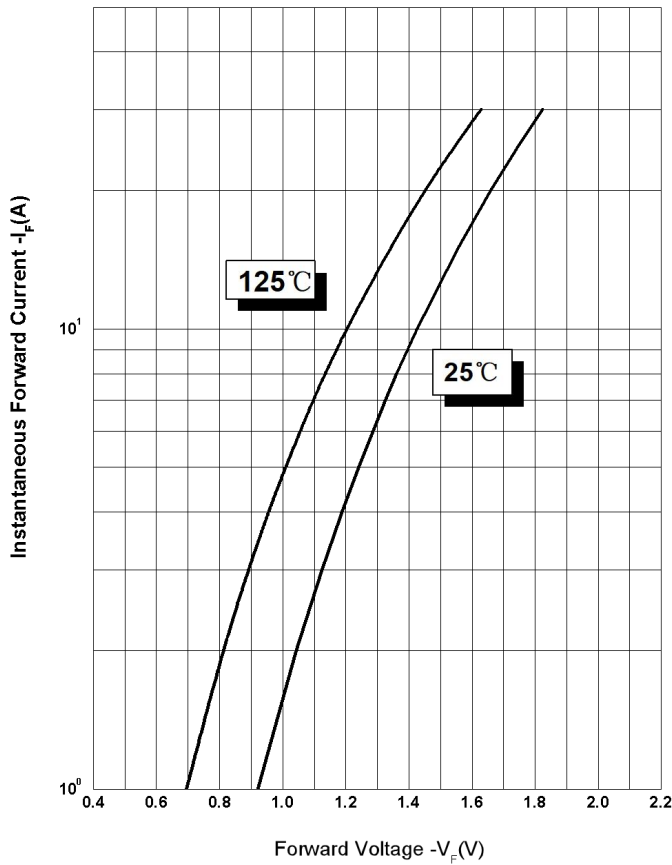


Figure 2 Typical Reverse Characteristics

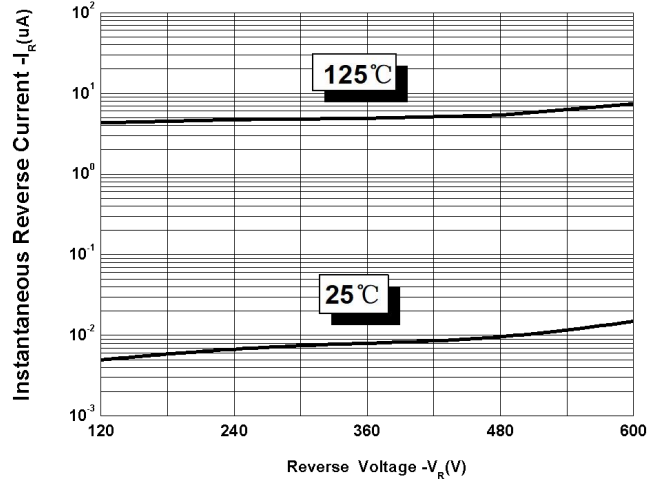
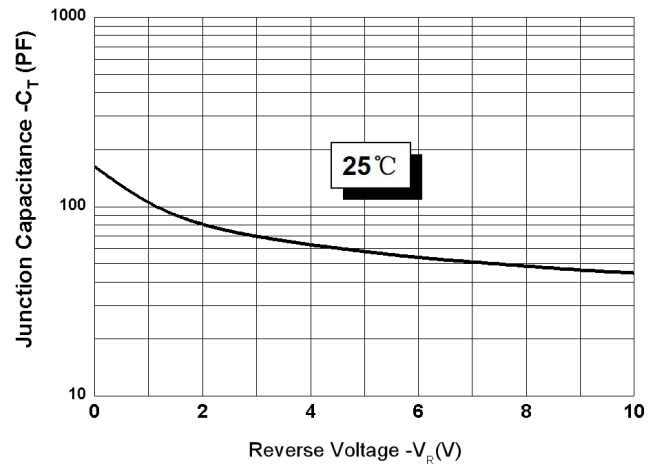
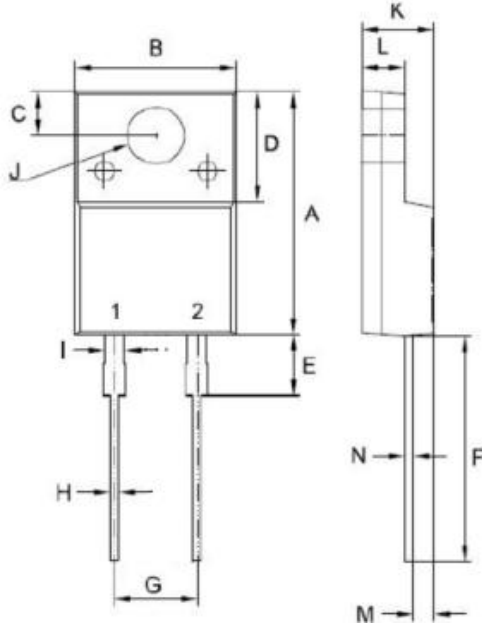
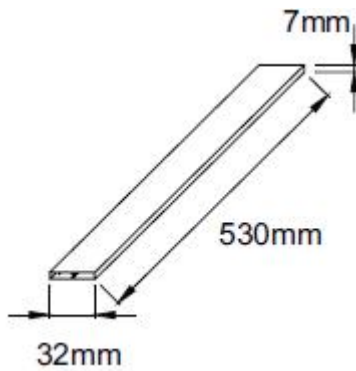
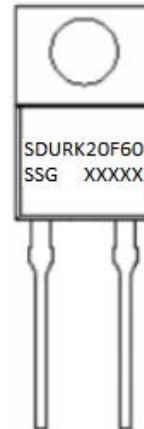


Figure 3 Typical Junction Capacitance



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)
 F = F
 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
SDURK20F60	ITO-220AC-2L (Pb-Free)	50 pcs/ tube

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