

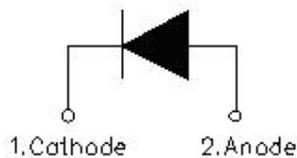
SDURK30P60 ULTRAFAST RECTIFIER



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
- 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:

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 @ $T_c=70^\circ\text{C}$, rectangular wave form	30	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse, $T_c = 25^\circ\text{C}$	280	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V _{F1}	@ 15A, Pulse, T _J = 25°C @ 30A, Pulse, T _J = 25°C	1.16 1.33	- 1.70	V
	V _{F1}	@ 15A, Pulse, T _J = 125°C @ 30A, Pulse, T _J = 125°C	1.00 1.20	- 1.50	V
Reverse Current*	I _{R1}	@V _R = rated V _R , T _J = 25°C	0.03	150	uA
	I _{R2}	@V _R = rated V _R , T _J = 125°C	0.02	1	mA
Reverse Recovery Time	t _{rr}	I _F = 500mA, I _R = 1A, and I _{rm} = 250mA, T _J = 25°C	40	50	ns
Reverse Recovery Time	t _{rr}	I _F = 30A, diF/dt = -200A/μs V _R = 200V, T _J = 25°C	132	-	ns
Reverse Recovery Charge	Q _{rr}		396	-	nC
Reverse Recovery Current	I _{RRM}		6	-	A
Reverse Recovery Time	t _{rr}	I _F = 30A, diF/dt = -200A/μs V _R = 200V, T _J = 125°C	186	-	ns
Reverse Recovery Charge	Q _{rr}		1004	-	nC
Reverse Recovery Current	I _{RRM}		11	-	A
Reverse Recovery Time	t _{rr}	I _F = 1A, diF/dt = -100A/μs V _R = 30V, T _J = 25°C	36	-	ns
Reverse Recovery Charge	Q _{rr}		42	-	nC
Reverse Recovery Current	I _{RRM}		2.3	-	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	1.6	°C/W
Approximate Weight	wt	-	1.6	g
Case Style	ITO-220AC-2L			

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

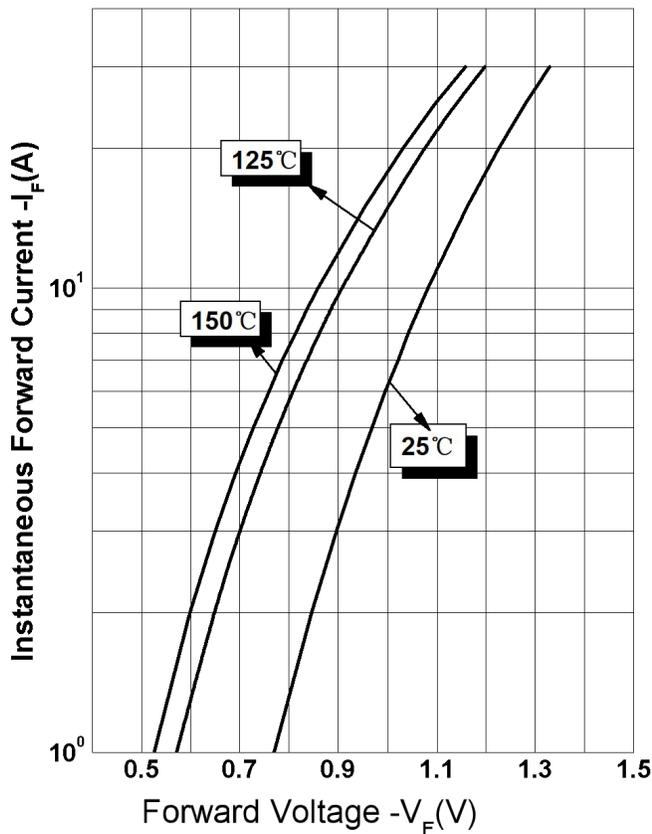


Figure 2
Typical Reverse Characteristics

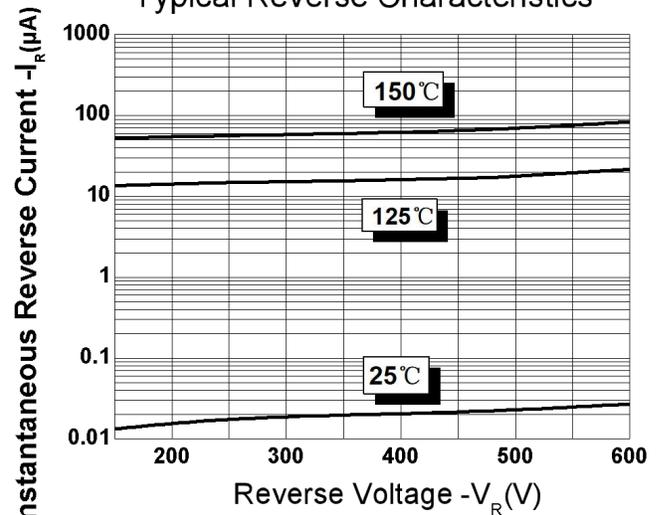
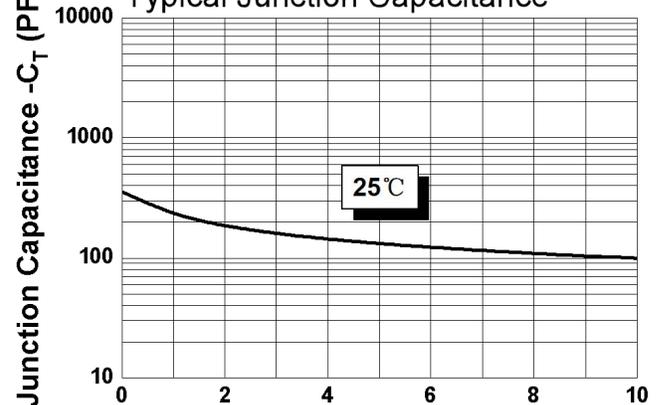
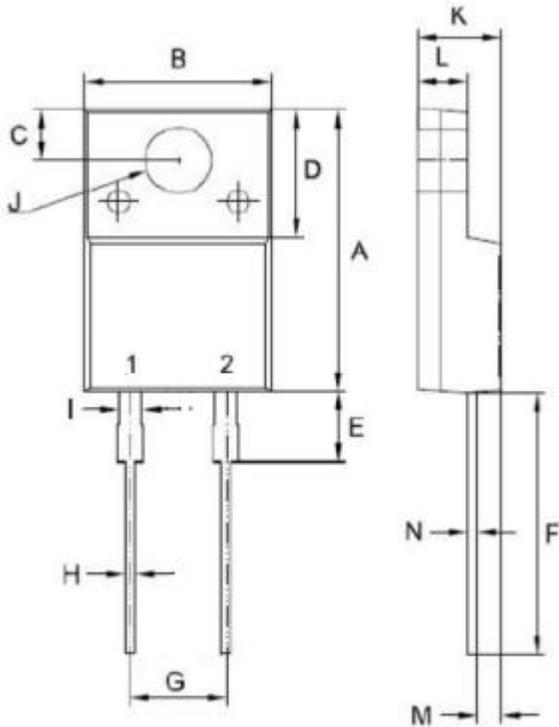


Figure 3
Typical Junction Capacitance

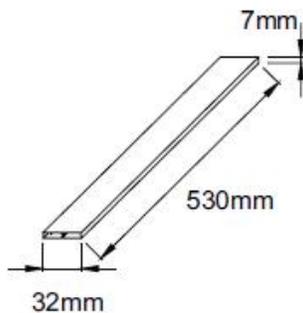


Mechanical Dimensions ITO-220AC-2L

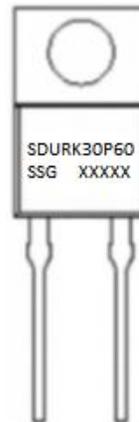


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	14.50	15.30	16.00
B	9.50	10.00	10.50
C	2.50	3.00	3.5
D	6.30	6.80	7.30
E	3.10	3.70	4.30
F	13.00	13.5	14.00
G	4.90	5.10	5.30
H	0.30	0.60	0.90
I	0.90	1.2	1.50
J	3.20	3.50	3.80
K	4.24	4.54	4.84
L	2.30	2.61	2.92
M	1.09	1.29	1.49
N	0.42	0.53	0.63

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

- SDUR = Device Type
- K = Package type
- 30 = Forward Current (30A)
- P = P
- 60 = Reverse Voltage (600V)
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

Ordering Information:

Device	Package	Shipping
SDURK30P60	ITO-220AC-2L(Pb-Free)	50pcs / tube

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