

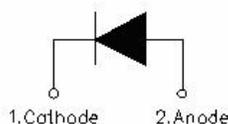
## SDURK10Q60 ULTRAFAST RECTIFIER



### 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
- 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 @ $T_c=105^\circ\text{C}$ , rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3ms, Half Sine pulse	100	A

### Electrical Characteristics:

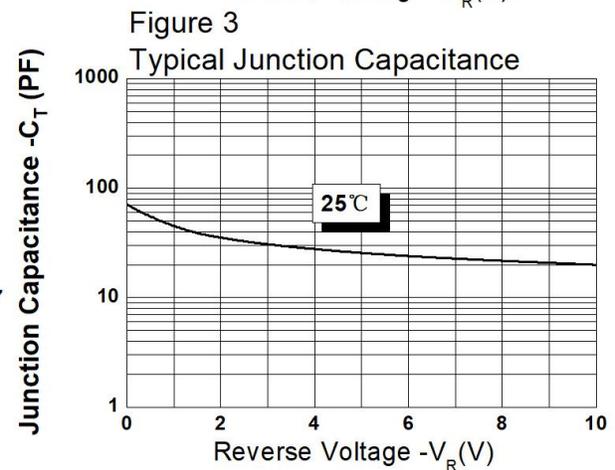
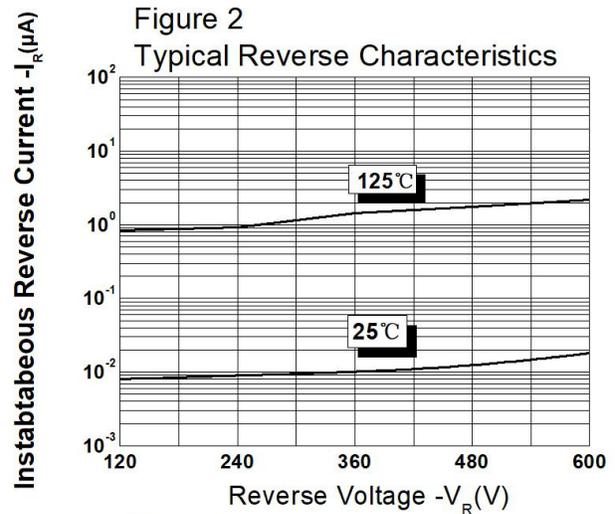
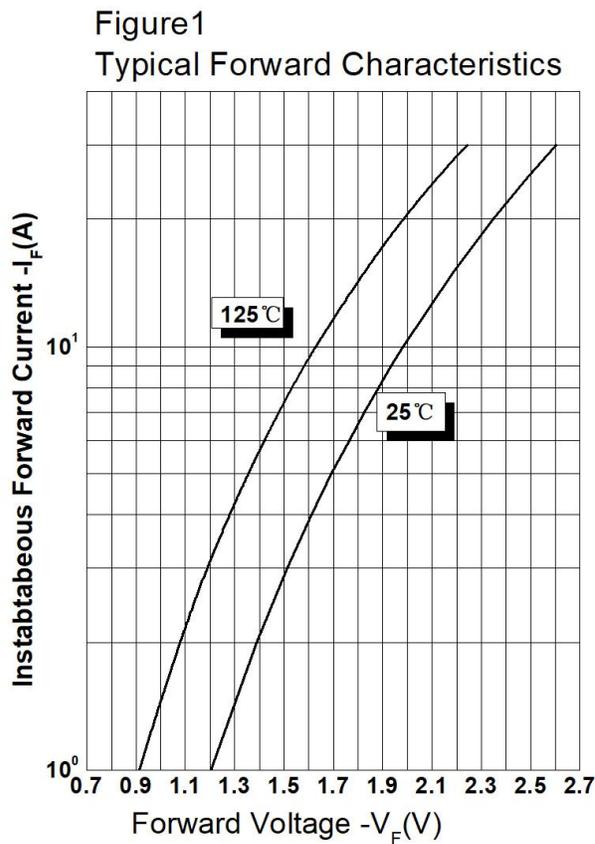
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	$V_{F1}$	@10A, Pulse, $T_J = 25^\circ\text{C}$	2.0	2.3	V
	$V_{F2}$	@10A, Pulse, $T_J = 125^\circ\text{C}$	1.63	2.0	V
Reverse Current *	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	0.02	10	$\mu\text{A}$
	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	2	500	$\mu\text{A}$
Reverse Recovery Time	$t_{rr}$	$I_F=500\text{mA}, I_R=1\text{A}, \text{and } I_{m}=250\text{mA}$	19	25	ns

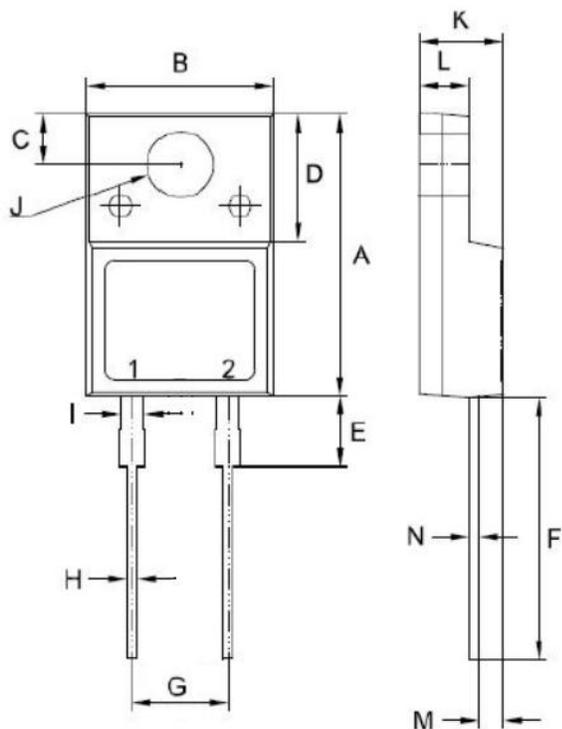
\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

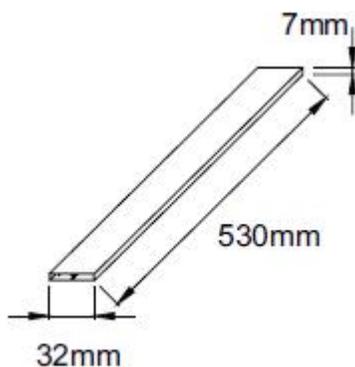
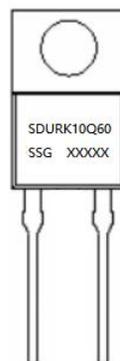
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	°C
Storage Temperature	$T_{stg}$	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.0	°C/W
Approximate Weight	wt	-	1.6	g
Case Style	ITO-220AC-2L			

**Ratings and Characteristics Curves**



**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  
 10 = Forward Current (10A)  
 Q = Q  
 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
SDURK10Q60	ITO-220AC-2L (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.

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