





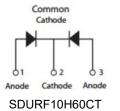
SDURF10H60CT(CTR) ULTRAFAST RECTIFIER

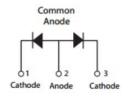


Applications

- 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





SDURF10H60CTR

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 @Tc=100°C, rectangular wave form	5(Per Leg) 10(Per Device)	Α
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I _{FSM}	8.3ms, Half Sine pulse	60	Α

Electrical Characteristics:

Characteristics	Symbol Condition		Тур.	Max.	Units
Forward Voltage Drop(Per Leg)*	V _{F1}	@5A, Pulse, T _J = 25°C	1.39	1.80	V
	V _{F2}	@5A, Pulse, T _J = 125°C	1.36	1.65	V
Reverse Current(Per Leg)*	I _{R1}	$@V_R = \text{rated } V_R$, $T_J = 25^{\circ}\text{C}$	0.08	5	μA
	I _{R2}	$@V_R = \text{rated } V_R$, $T_J = 125^{\circ}C$	63	500	μΑ
Reverse Recovery Time(Per Leg)	t _{rr}	I_F =500mA, I_R =1A,and I_{rm} =250mA, T_J = 25°C	32	40	ns
Reverse Recovery Time(Per Leg)	t _{rr}		56	-	ns
Reverse Recovery Charge(Per Leg)	Qrr	I _F = 5A, diF/dt = -200A/μs V _R = 400V, T _J = 25°C	151	-	nC
Reverse Recovery Current(Per Leg)	I _{RRM}	- VR - 400V, 13 - 25 C	5.4	-	Α
Reverse Recovery Time(Per Leg)	t _{rr}		84	-	ns
Reverse Recovery Charge(Per Leg)	Qrr	$I_F = 5A$, diF/dt = -200A/ μ s - $V_R = 400V$, $T_J = 125$ °C	269	-	nC
Reverse Recovery Current(Per Leg)	I _{RRM}	7 VR - 400 V, 1J - 123 C	6.4	-	Α

^{*} Pulse width < 300 µs, duty cycle < 2%

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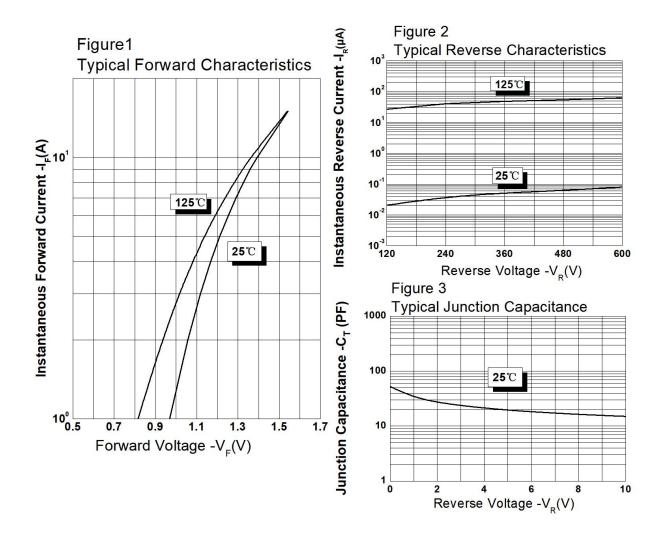




Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	TJ	-	-55 to +125	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{ heta JC}$	DC operation	5	°C/W
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

Ratings and Characteristics Curves



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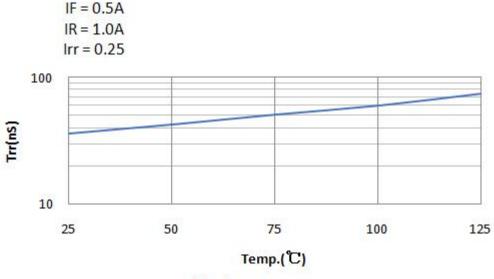
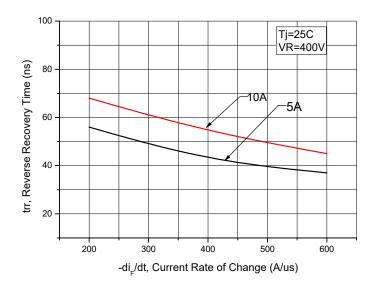


Fig.4- Trr & Temp.



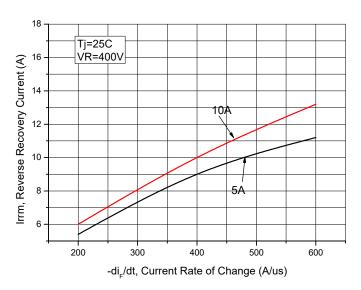


Figure 5. Reverse Recovery Time vs. Current Rate of Change

Figure 6. Reverse Recovery Current vs. Current Rate of Change







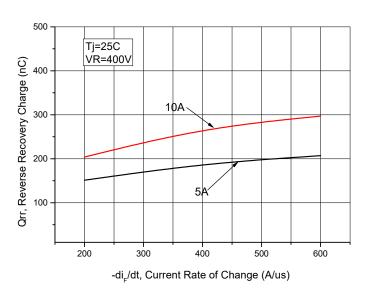
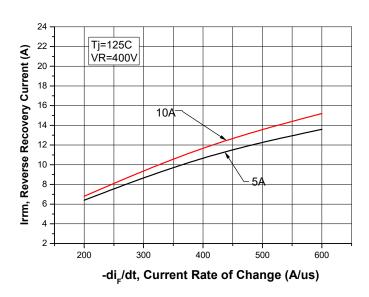


Figure 7. Reverse Recovery Charge vs. Current Rate of Change

Figure 8. Reverse Recovery Time vs. Current Rate of Change



700 Tj=125C 650 VR=400V 600 Qrr, Reverse Recovery Charge (nC) 550 10A 500 450 400 350 300 -5A 250 200 150 100 -200 300 400 500 600 -di_/dt, Current Rate of Change (A/us)

Figure 9. Reverse Recovery Current vs. Current Rate of Change

Figure 10. Reverse Recovery Charge vs. Current Rate of Change

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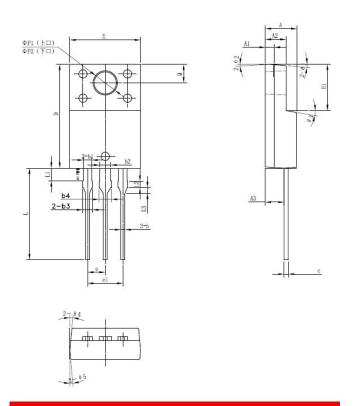






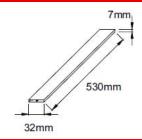


Mechanical Dimensions ITO-220AB



OVMBOL	Millimeters				
SYMBOL	MIN.	TYP.	MAX.		
Α	4.30	4.50	4.70		
A1	1.10	1.30	1.50		
A2	2.80	3.00	3.20		
A3	2.50	2.70	2.90		
b	0.50	0.60	0.75		
b1	1.10	1.20	1.35		
b2	1.50	1.60	1.75		
b3	1.20	1.30	1.45		
b4	1.60	1.70	1.85		
С	0.50	0.60	0.75		
D	14.80	15.00	15.20		
E	9.96	10.16	10.36		
е		2.55			
e1		5.10			
H1	6.50	6.70	6.90		
L	12.70	13.20	13.70		
L1	1.60	1.80	2.00		
L2	0.80	1.00	1.20		
L3	0.60	0.80	1.00		
ΦP1(上□)	3.30	3.50	3.70		
ΦP2 (下口)	2.99	3.19	3.39		
Q	2.50	2.70	2.90		
Θ1		5°			
Θ2		4°			
Θ3		10°			
Θ4		5°			
Θ5		5°			

Tube Specification

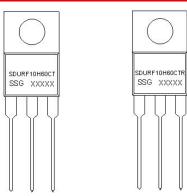


Ordering Information

Device	Package	Shipping
SDURF10H60CT(CTR)	ITO-220AB (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.

Marking Diagram



Where XXXXX is YYWWL

= Device Type SDUR = Package type = Forward Current (10A) 10 Н = H = Reverse Voltage (600V) 60 CT(CTR) = Configuration SSG = SSG = Year WW = Week = Lot Number

Cautions: Molding resin

Epoxy resin UL:94V-0

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SDURF10H60CT(CTR)

Technical Data Data Sheet N1712, Rev. C





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