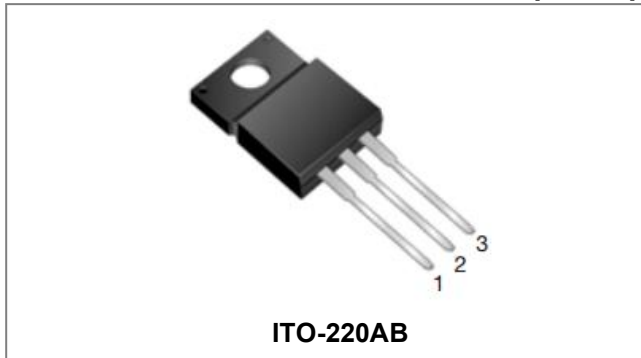




**THE DATASHEET OF
SDURF1060CT**



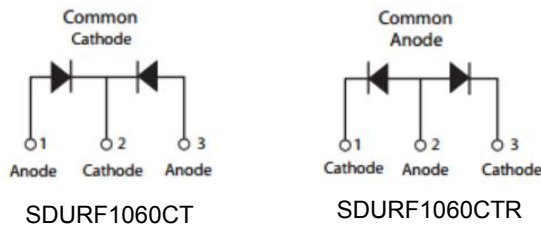
SDURF1060CT(CTR) ULTRAFAST RECTIFIER



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



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	V_{RRM}	-	600	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c=100^\circ\text{C}$, rectangular wave form	5(Per Leg)	A
			10(Per Device)	
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	60	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V_{F1}	@5A, Pulse, $T_J = 25^\circ\text{C}$	1.14	1.55	V
	V_{F2}	@5A, Pulse, $T_J = 125^\circ\text{C}$	0.95	1.45	V
Reverse Current(Per Leg)*	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	0.007	5	μA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	3	500	μA
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F=500\text{mA}, I_R=1\text{A}, \text{ and } I_m=250\text{mA}$	42	50	ns
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F = 5\text{A}, diF/dt = -200\text{A}/\mu\text{s}$ $V_R = 400\text{V}, T_J = 25^\circ\text{C}$	55	-	ns
Reverse Recovery Charge(Per Leg)	Q_{rr}		160	-	nC
Reverse Recovery Current(Per Leg)	I_{RRM}		5.8	-	A
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F = 5\text{A}, diF/dt = -200\text{A}/\mu\text{s}$ $V_R = 400\text{V}, T_J = 125^\circ\text{C}$	88	-	ns
Reverse Recovery Charge(Per Leg)	Q_{rr}		299	-	nC
Reverse Recovery Current(Per Leg)	I_{RRM}		6.8	-	A

Technical Data

Data Sheet N0227, Rev. A

* Pulse width < 300 μ s, duty cycle < 2%



Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^{\circ}$ C
Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}$ C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	5	$^{\circ}$ C/W
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

Ratings and Characteristics Curves

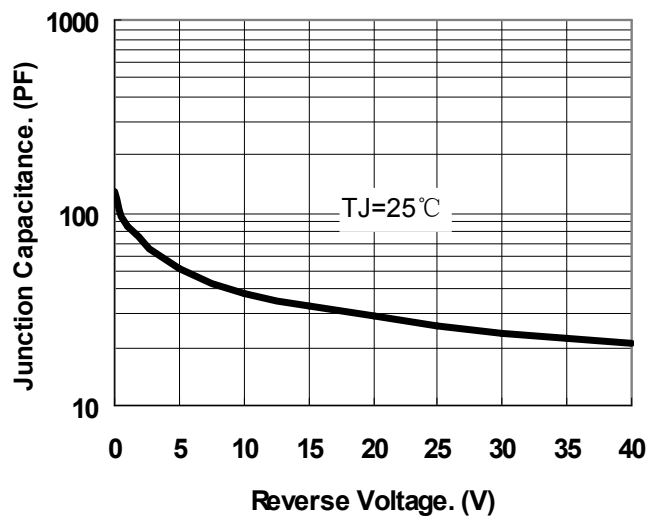


Fig.1-Typical Junction Capacitance

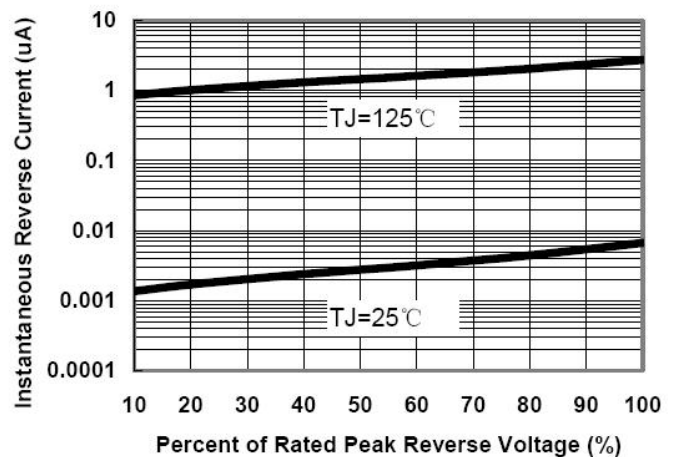


Fig.2-Typical Reverse Characteristics

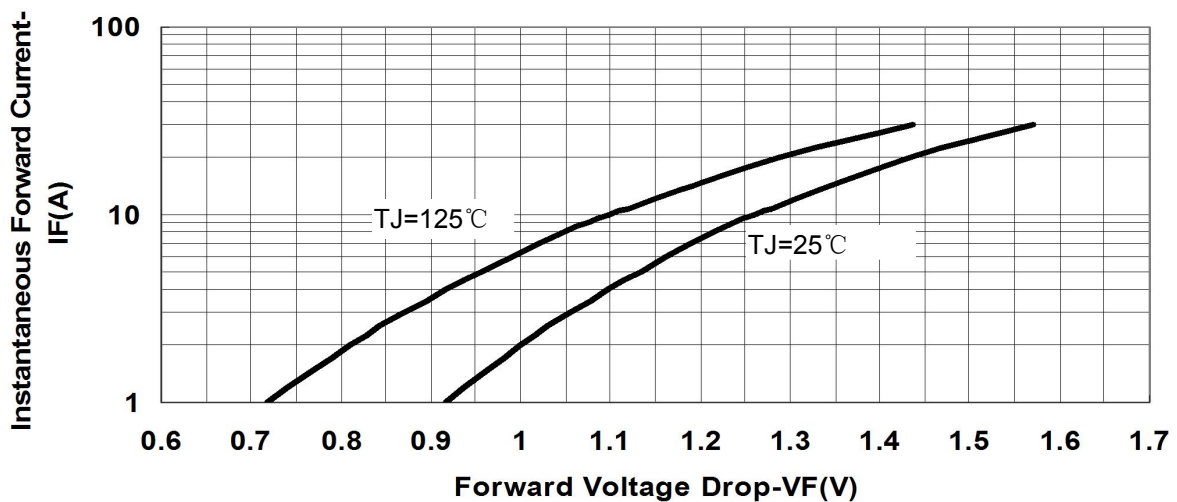


Fig.3-Typical Forward Voltage Drop Characteristics

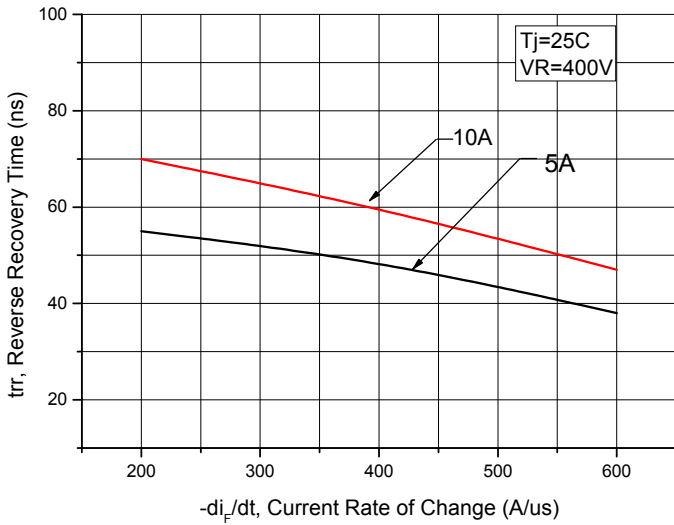


Figure 4. Reverse Recovery Time vs. Current Rate of Change

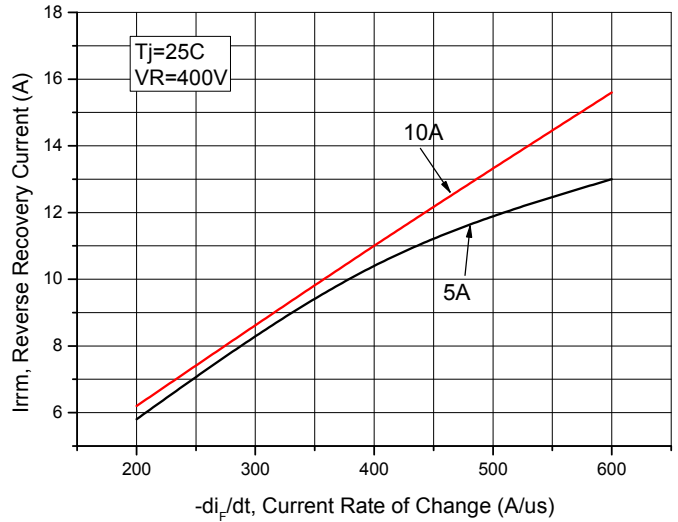


Figure 5. Reverse Recovery Current vs. Current Rate of Change

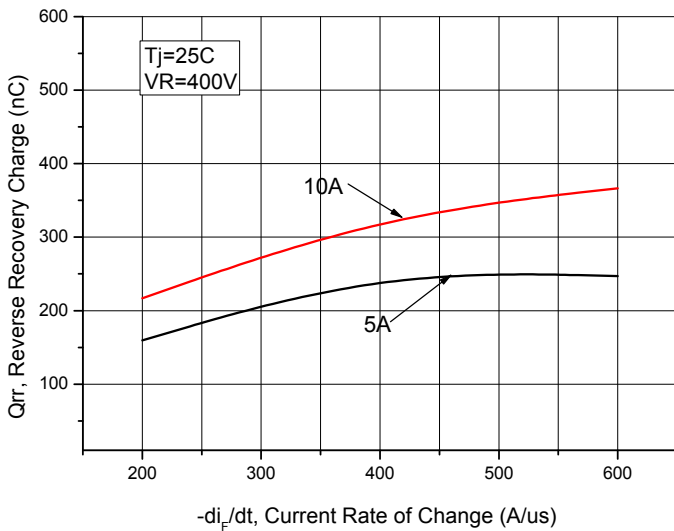


Figure 6. Reverse Recovery Charge vs. Current Rate of Change

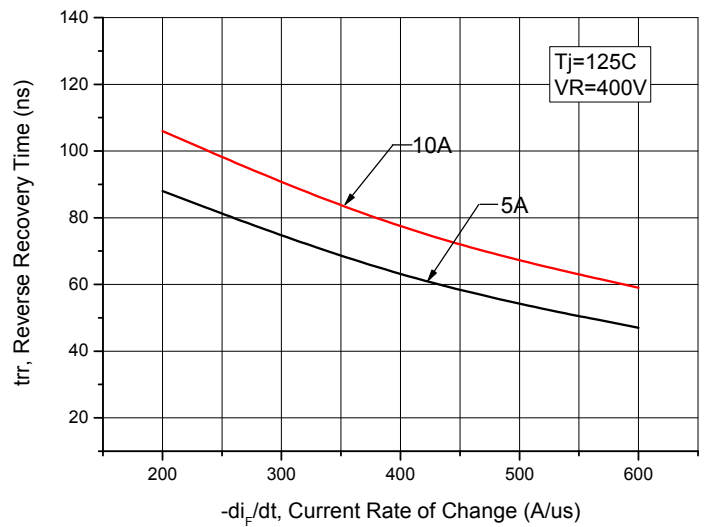


Figure 7. Reverse Recovery Time vs. Current Rate of Change

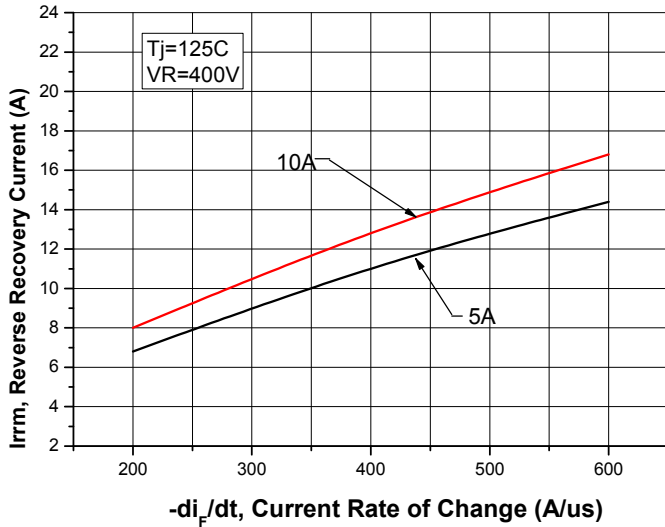


Figure 8. Reverse Recovery Current vs. Current Rate of Change

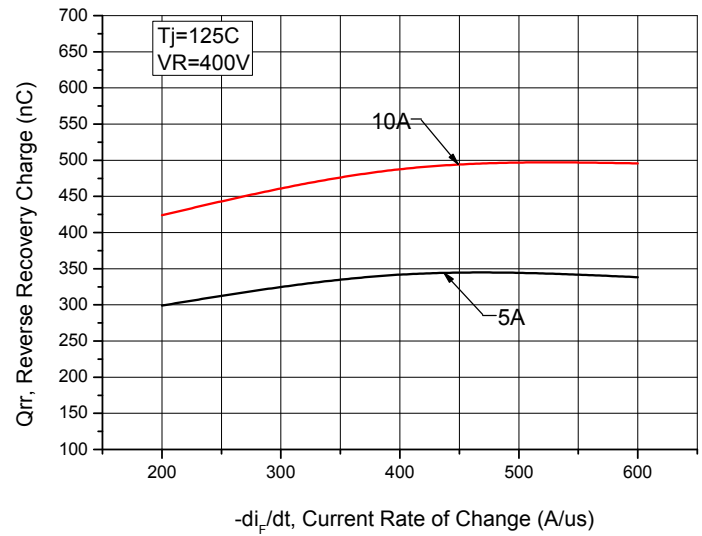
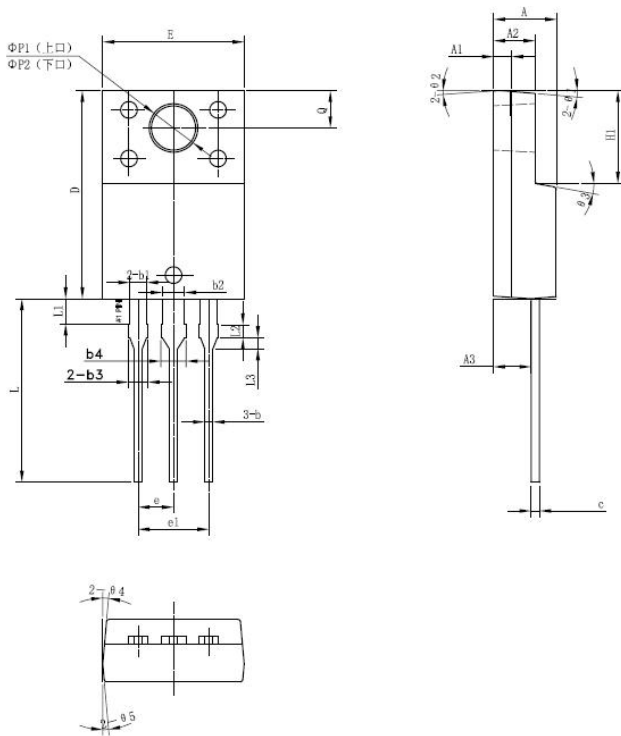


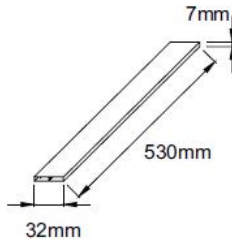
Figure 9. Reverse Recovery Charge vs. Current Rate of Change

Mechanical Dimensions ITO-220AB



SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	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
c	0.50	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e		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
$\Phi P1$ (上 \square)	3.30	3.50	3.70
$\Phi P2$ (下 \square)	2.99	3.19	3.39
Q	2.50	2.70	2.90
$\theta 1$		5°	
$\theta 2$		4°	
$\theta 3$		10°	
$\theta 4$		5°	
$\theta 5$		5°	

Tube Specification

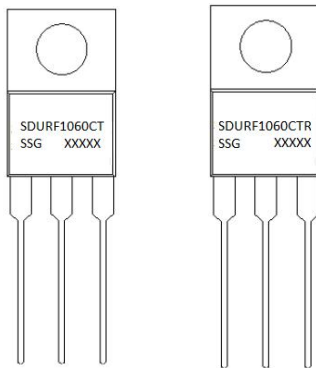


Ordering Information

Device	Package	Shipping
SDURF1060CT(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

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

Cautions: Molding resin
Epoxy resin UL:94V-0

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