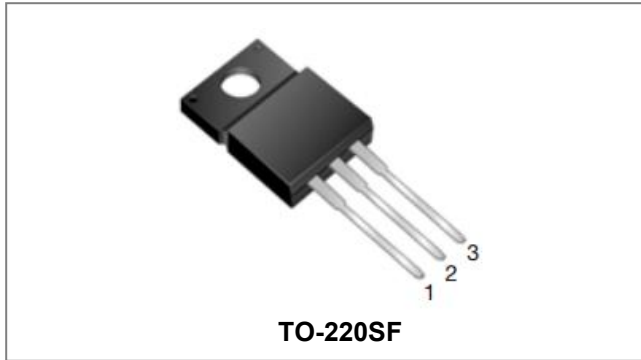


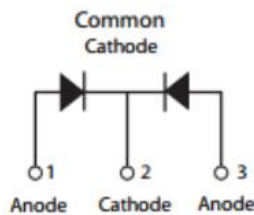
SDURL1060CT ULTRAFAST RECTIFIER



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) 10(Per Device)	A
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}	$I_F=500\text{mA}, I_R=1\text{A}, \text{and } I_{rm}=250\text{mA}$	42	50	ns

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	5	$^{\circ}\text{C/W}$
Case Style	TO-220SF			

Ratings and Characteristics Curves

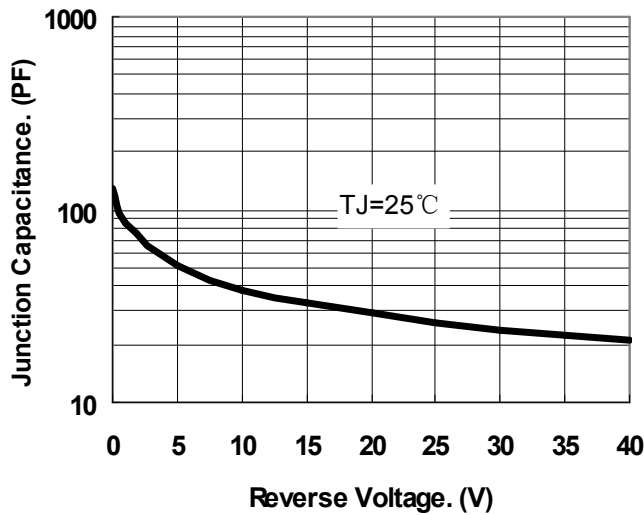


Fig.1-Typical Junction Capacitance

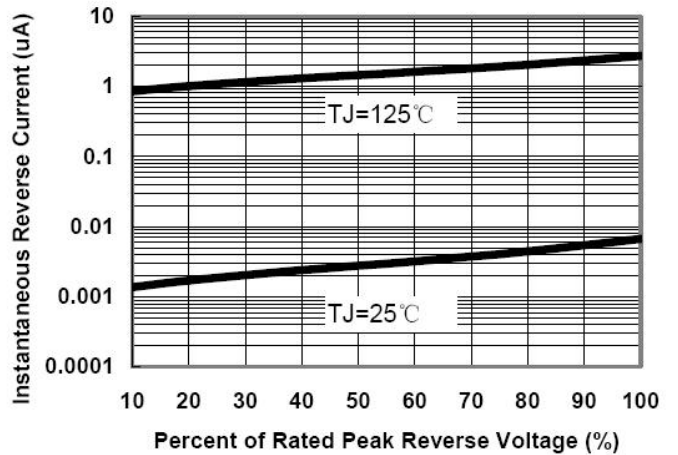


Fig.2-Typical Reverse Characteristics

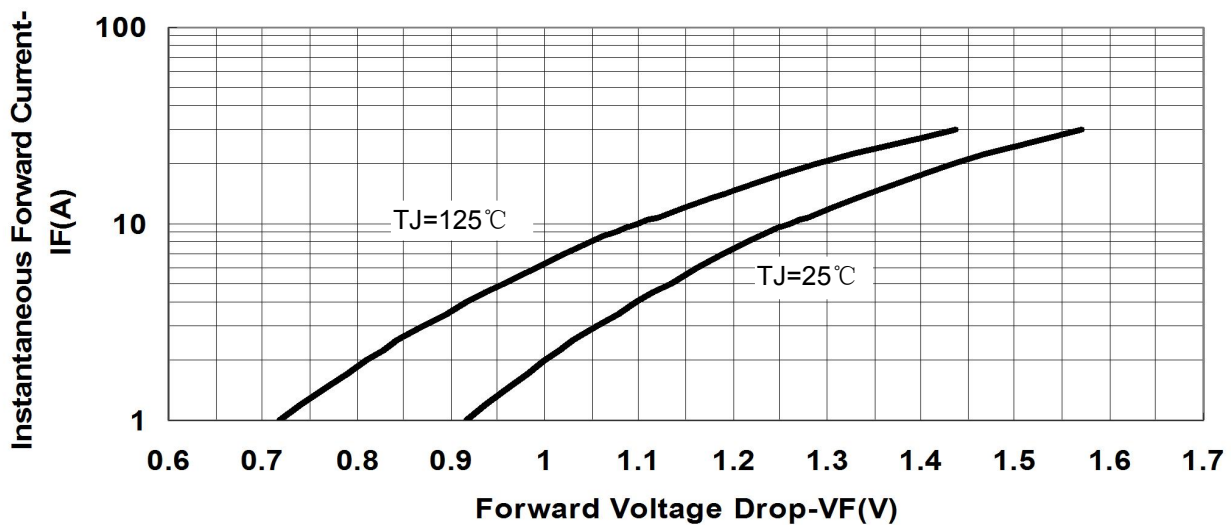
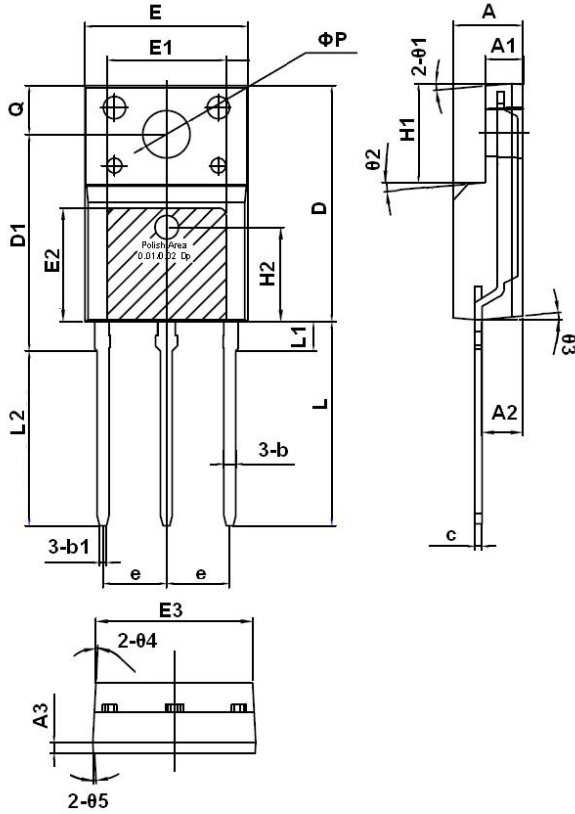


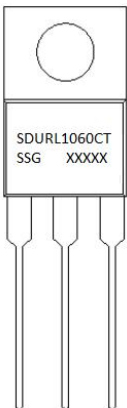
Fig.3-Typical Forward Voltage Drop Characteristics

Mechanical Dimensions TO-220SF



SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.50	4.70	4.90
A1	2.34	2.54	2.75
A2	2.65	-	-
b	0.70	0.80	0.90
b1	0.25	0.35	0.45
c	0.45	0.50	0.60
D	15.67	15.87	16.07
D1	14.37	14.57	14.77
E	10.80	11.00	11.20
E1	7.90	8.00	8.10
E2	7.55	7.65	7.75
E3	-	10.58	-
e	4.05	4.25	4.45
H1	6.48	6.68	6.88
H2	-	6.35	-
L	13.58	13.78	13.98
L1	1.80	2.00	2.20
L2	11.48	11.78	12.08
ΦP	3.08	3.18	3.28
Q	3.20	3.30	3.40
$\Theta 1$		5°	
$\Theta 2$		5°	
$\Theta 3$		5°	
$\Theta 4$		3°	
$\Theta 5$		3°	

Marking Diagram



Where XXXXX is YYWWL

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

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

Ordering Information

Device	Package	Shipping
SDURL1060CT	TO-220SF (Pb-Free)	45 pcs/ tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Technical Data
Data Sheet N1874, Rev. A



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