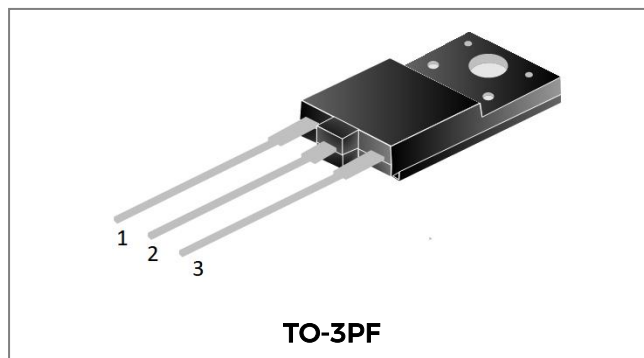


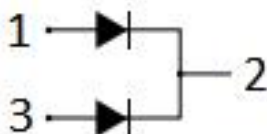
SDURF30F60PT ULTRAFAST RECTIFIER



Applications:

- Anti parallel 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@T_c=25°C unless otherwise specified

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 in DC	$I_F (AV)$	T _c =137°C, In DC	15(Per Leg) 30(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	180	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V_{F1}	@ 15A, Pulse, $T_J = 25^{\circ}\text{C}$	1.22	1.60	V
	V_{F2}	@ 15A, Pulse, $T_J = 150^{\circ}\text{C}$	1.06	1.30	V
Reverse Current(Per Leg)*	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^{\circ}\text{C}$	0.02	15	μA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 125^{\circ}\text{C}$	5	500	μA
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F = 500\text{mA}, I_R = 1\text{A}, \text{ and } I_{rm} = 250\text{mA}, T_J = 25^{\circ}\text{C}$	33	40	ns
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F = 1\text{A}, di_F/dt = -100\text{A}/\mu\text{s}, V_R = 30\text{V}, T_J = 25^{\circ}\text{C}$	34	-	ns
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F = 15\text{A}, di_F/dt = -200\text{A}/\mu\text{s}, V_R = 600\text{V}, T_J = 25^{\circ}\text{C}$	100	-	ns
Reverse Recovery Charge(Per Leg)	Q_{rr}		401	-	nC
Reverse Recovery Current(Per Leg)	I_{RRM}		6.4	-	A
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F = 15\text{A}, di_F/dt = -200\text{A}/\mu\text{s}, V_R = 600\text{V}, T_J = 125^{\circ}\text{C}$	137	-	ns
Reverse Recovery Charge(Per Leg)	Q_{rr}		950	-	nC
Reverse Recovery Current(Per Leg)	I_{RRM}		9.8	-	A

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.6	$^{\circ}\text{C}/\text{W}$

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

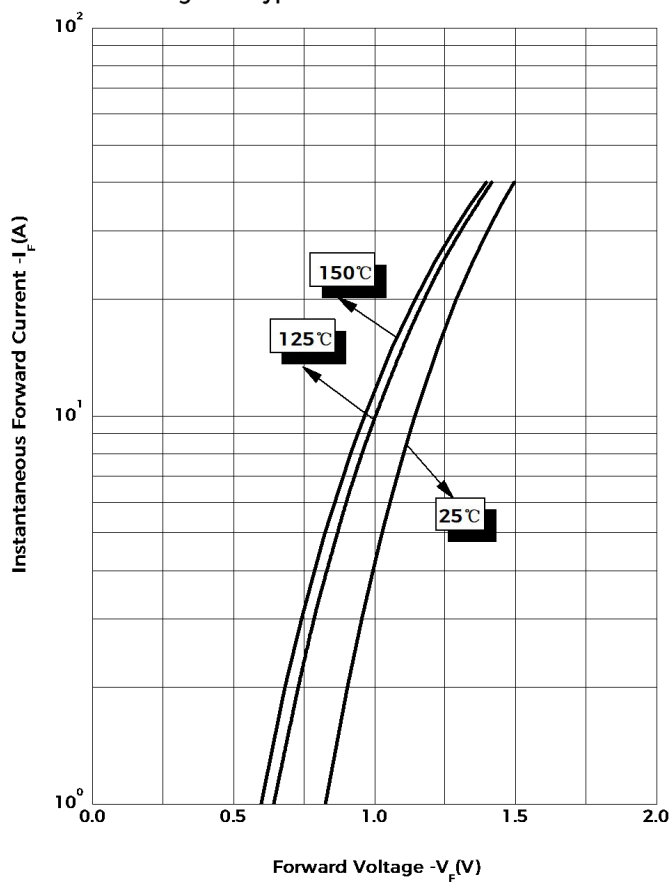


Figure 2 Typical Reverse Characteristics

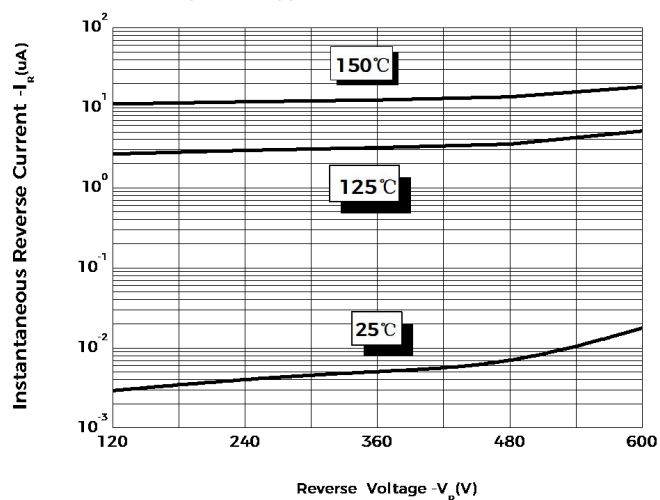
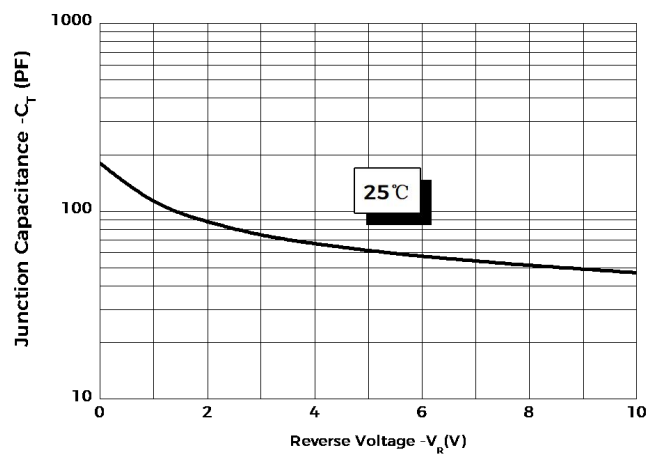
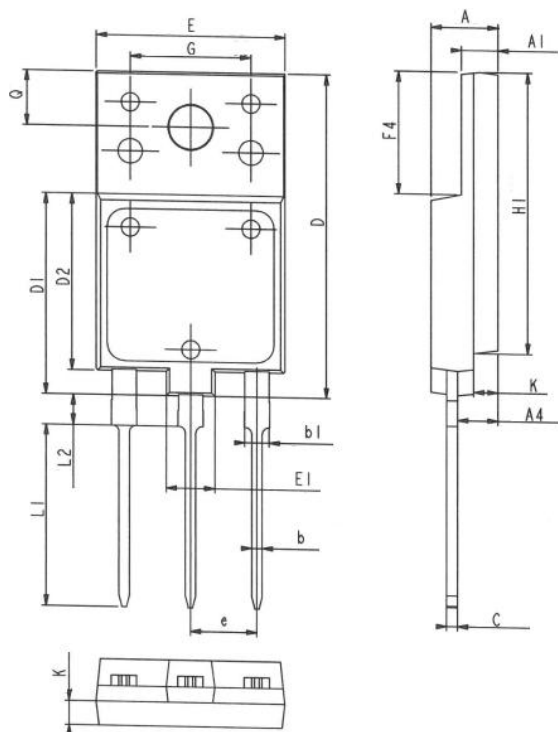


Figure 3 Typical Junction Capacitance

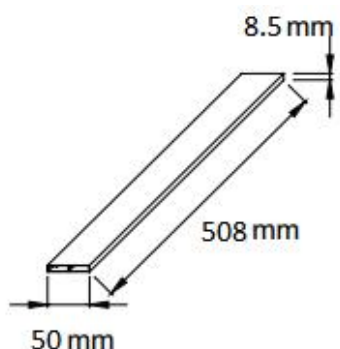


Mechanical Dimensions TO-3PF



SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	5.30	5.50	5.70
A1	2.80	3.00	3.20
b	0.66	0.86	0.95
b1	1.80	2.00	2.20
A4	3.10	3.30	3.50
C	0.80	0.90	1.00
D	26.30	26.50	26.70
D1	16.30	16.50	16.70
D2	14.30	14.50	14.70
P	3.40	3.60	3.80
E	15.30	15.50	15.70
E1	3.80	4.00	4.20
e	5.15	5.45	5.75
G	9.70	9.9	10.10
Q	4.35	4.50	4.65
L1	14.60	14.80	15.00
L2	2.30	2.50	2.70
K	1.80	2.00	2.20
F4	9.80	10.00	10.20
H1	22.80	23.00	23.20
K	1.80	2.00	2.20

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

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

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

Ordering Information:

Device	Package	Shipping
SDURF30F60PT	TO-3PF(Pb-Free)	30pcs / tube

Technical Data

Data Sheet N2781, Rev.-

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