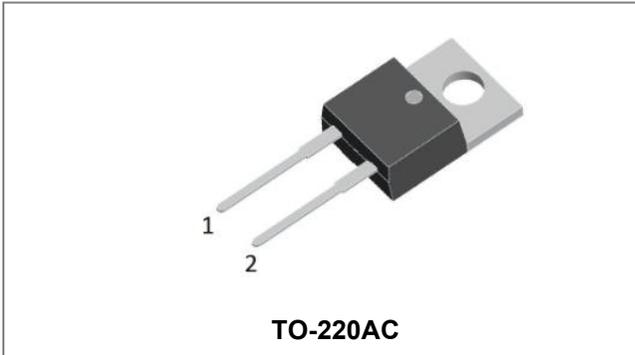




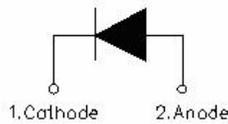
SDUR8U120 ULTRAFAST RECTIFIER



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
- 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	-	1200	V
Average Rectified Forward Current	$I_{F(AV)}$	$T_c=140^{\circ}C$	8	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	80	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V_{F1}	@8A, Pulse, $T_J = 25^{\circ}C$	1.85	3.20	V
	V_{F2}	@8A, Pulse, $T_J = 150^{\circ}C$	1.56	2.60	V
Reverse Current *	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^{\circ}C$	0.005	100	μA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 150^{\circ}C$	13	500	μA
Reverse Recovery Time	t_{rr}	$I_F=500mA, I_R=1A, \text{ and } I_m=250mA, T_J = 25^{\circ}C$	40.9	50	ns
Reverse Recovery Time	t_{rr}	$I_F=1A, dI_F/dt=200A/\mu s, T_J = 25^{\circ}C$	-	55	ns
Reverse Recovery Time	t_{rr}	$I_F=8A, dI_F/dt=200A/\mu s, T_J = 25^{\circ}C$	-	70	ns

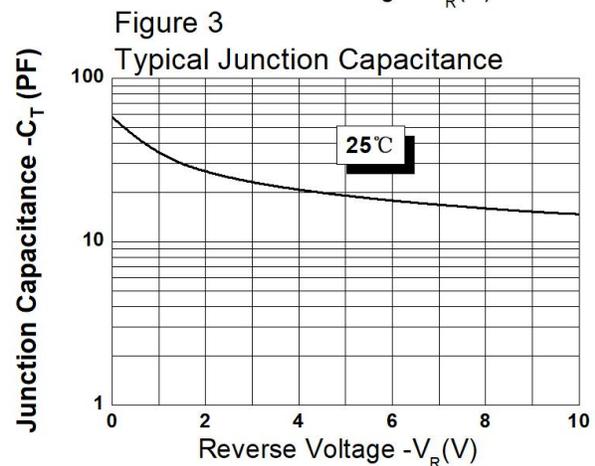
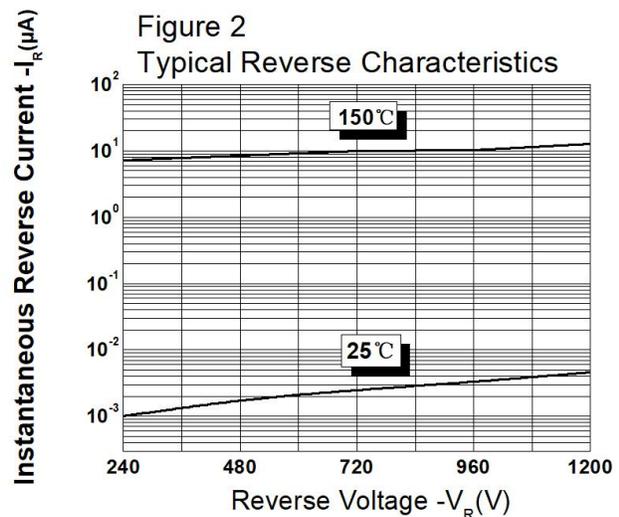
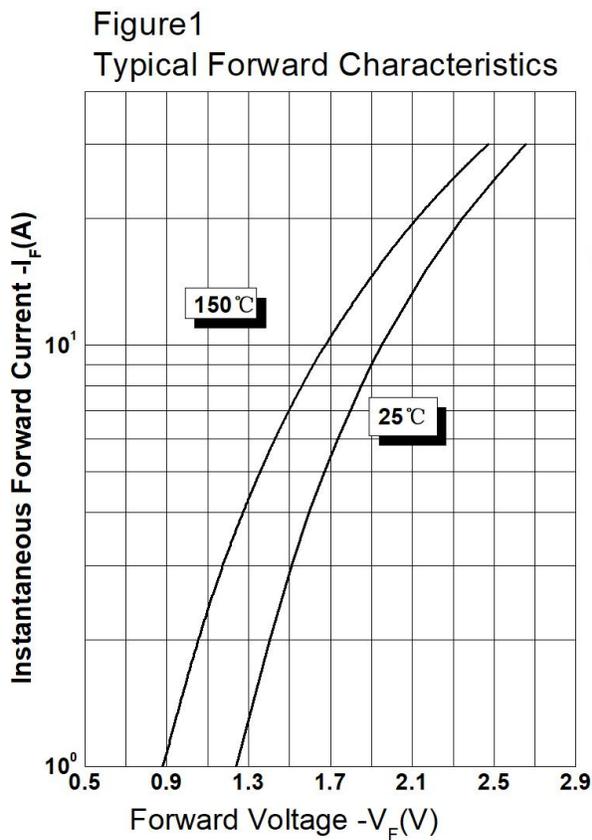
* Pulse width < 300 μs , duty cycle < 2%



Thermal-Mechanical Specifications:

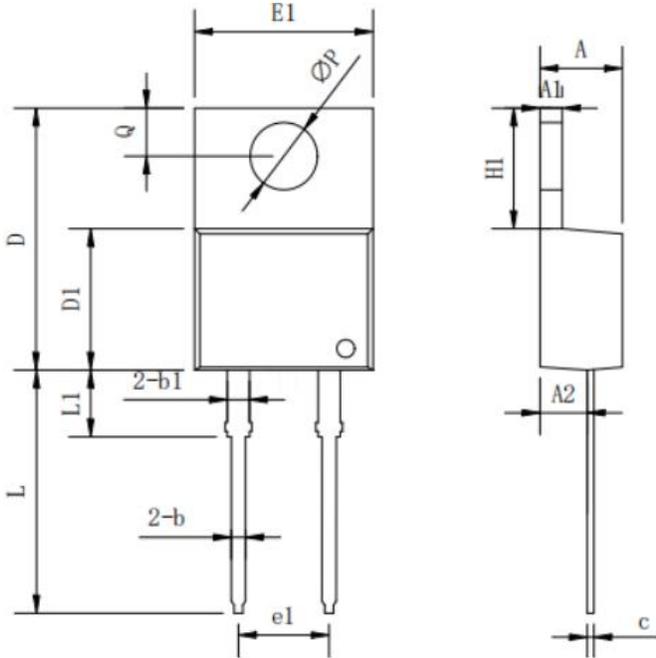
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-65 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-65 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	2	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	1.6	g
Case Style	TO-220AC			

Ratings and Characteristics Curves



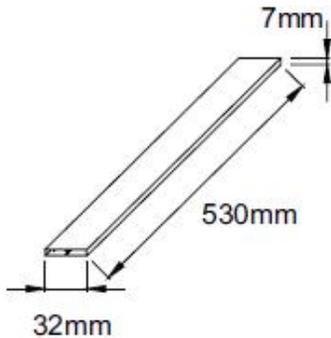


Mechanical Dimensions TO-220AC

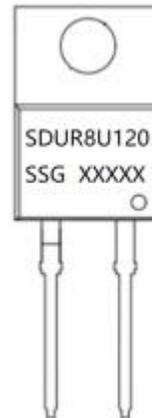


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	3.56	-	4.83
A1	0.51	-	1.40
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E1	9.65	10.16	10.67
e1	-	5.08	-
H1	5.84	-	6.86
L	12.70	-	14.73
L1	-	-	6.35
ΦP	-	3.56	-

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

- SDUR = Device Type
- 8 = Forward Current (8A)
- U = U
- 120 = Reverse Voltage(1200V)
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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



Ordering Information

Device	Package	Shipping
SDUR8U120	TO-220AC (Pb-Free)	50 pcs/ tube

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