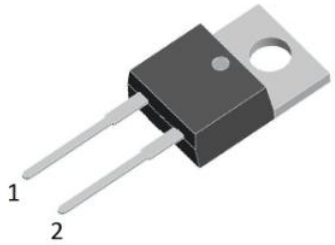
Technical Data
Data Sheet N2393, Rev.-

SDUR15U120 ULTRAFAST RECTIFIER

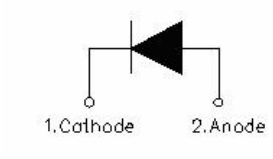


TO-220AC

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	$I_{F\ (AV)}$	Tc=140°C	15	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse, Tc=25°C	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V_{F1}	@15A, Pulse, T_J = 25°C	1.90	2.80	V
	V_{F2}	@15A, Pulse, T_J = 150°C	1.50	2.30	V
Reverse Current *	I_{R1}	@V_R = rated V_R, T_J = 25°C	0.012	50	µA
	I_{R2}	@V_R = rated V_R, T_J = 150°C	22	250	uA
Reverse Recovery Time	t_{rr}	I_F=500mA, I_R=1A, and I_{rm}=250mA	46	50	ns
Reverse Recovery Time	t_{rr}	I_F =15A, di_F/dt = -100A/µs, V_R=600V, T_J= 25°C	128	-	ns

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

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Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-65 to +175	°C
Storage Temperature	T_{stg}	-	-65 to +175	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.2	°C/W
Approximate Weight	wt	-	1.6	g
Case Style	TO-220AC			

Ratings and Characteristics Curves

Figure1
Typical Forward Characteristics

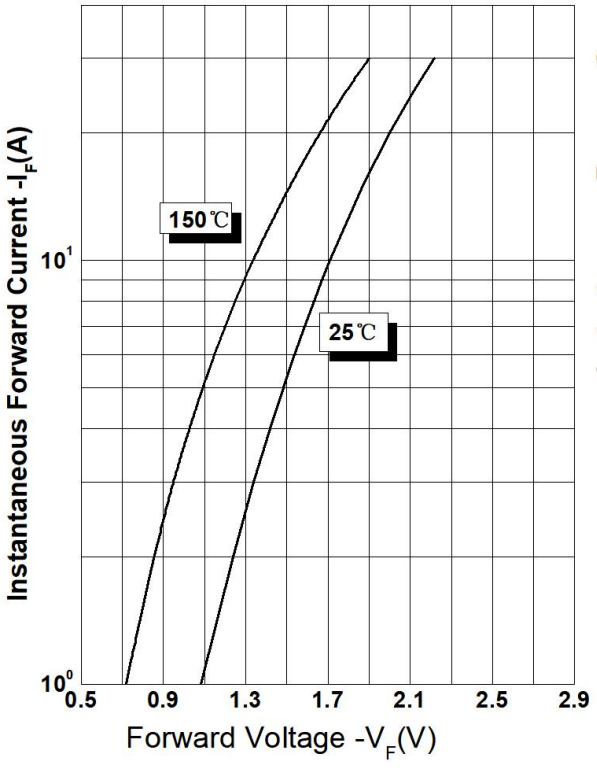


Figure 2
Typical Reverse Characteristics

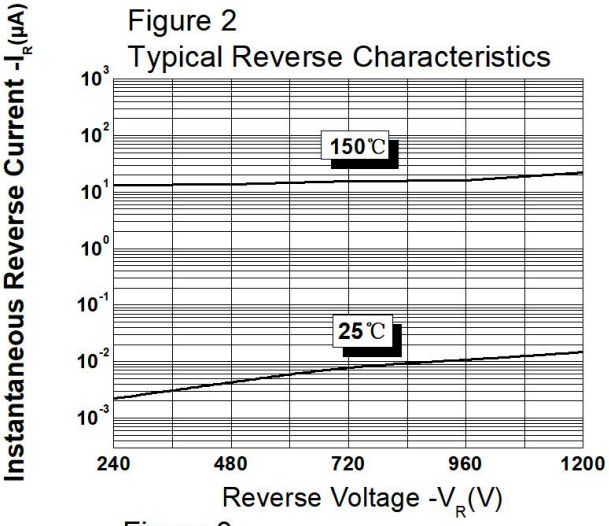
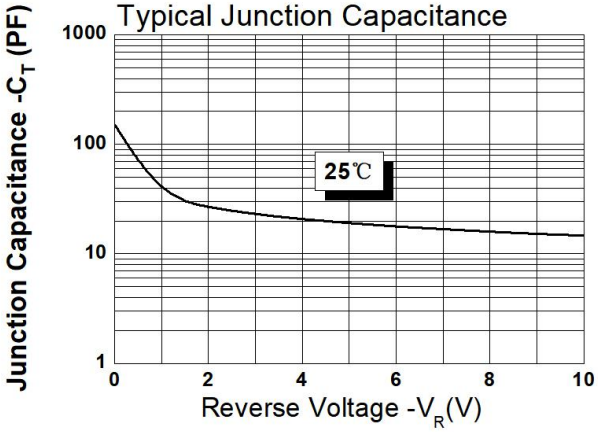


Figure 3
Typical Junction Capacitance



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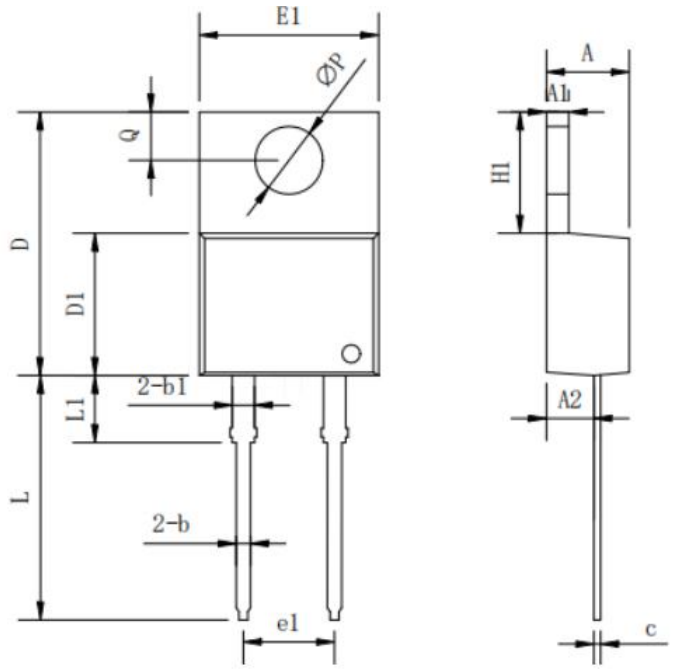
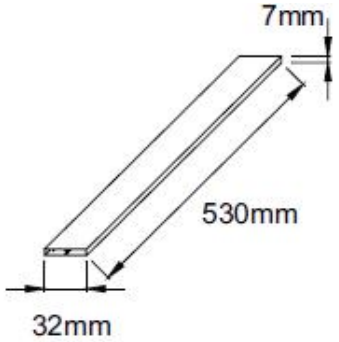
Mechanical Dimensions TO-220AC

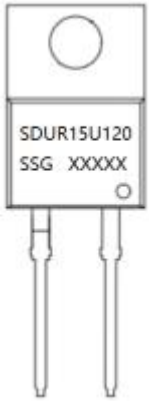


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	3.56	-	4.83
A1	0.51	-	1.40
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E1	9.65	10.16	10.67
e1	-	5.08	-
H1	5.84	-	6.86
L	12.70	-	14.73
L1	-	-	6.35
ΦP	-	3.56	-
Q	2.54	-	3.43

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

SDUR = Device Type
15 = Forward Current (15A)
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
SDUR15U120	TO-220AC (Pb-Free)	50 pcs/ tube

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