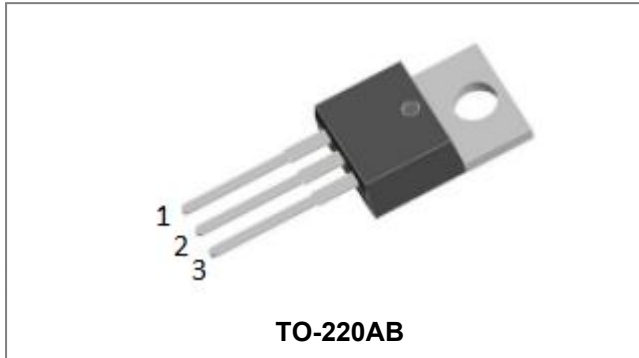


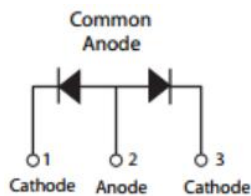
SDUR2020CTR ULTRAFAST RECTIFIER



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(at 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	-	200	V
Average Rectified Forward Current	$I_F (AV)$	$T_c=133^{\circ}C$, In DC	10(Per Leg) 20(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	120	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V_{F1}	@ 10A, Pulse, $T_J = 25^{\circ}C$	-	0.95	1.05	V
	V_{F2}	@ 10A, Pulse, $T_J = 125^{\circ}C$	-	0.83	0.85	V
Reverse Current(Per Leg)*	I_{R1}	@ V_R = rated V_R , $T_J = 25^{\circ}C$	-	0.3	10	μA
	I_{R2}	@ V_R = rated V_R , $T_J = 125^{\circ}C$	-	51	500	μA
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F=500mA$, $I_R=1A$, and $I_{rr}=250mA$	-	30	35	ns
Isolation Voltage	V_{ISO}	$t = 1.0$ second $t = 1.0$ minute	50/60HZ, RMS; $I_{iso} \leq 1mA$	3000 2500	- -	V

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.6	°C/W
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

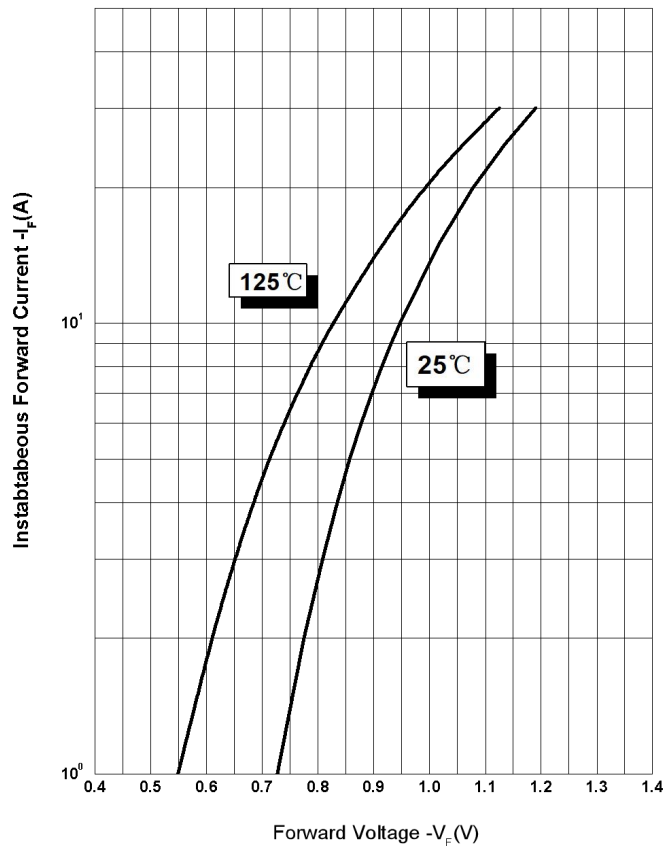


Figure 2 Typical Reverse Characteristics

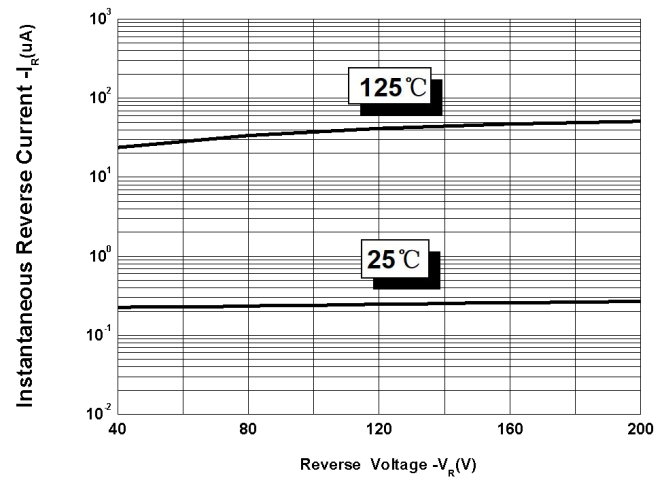
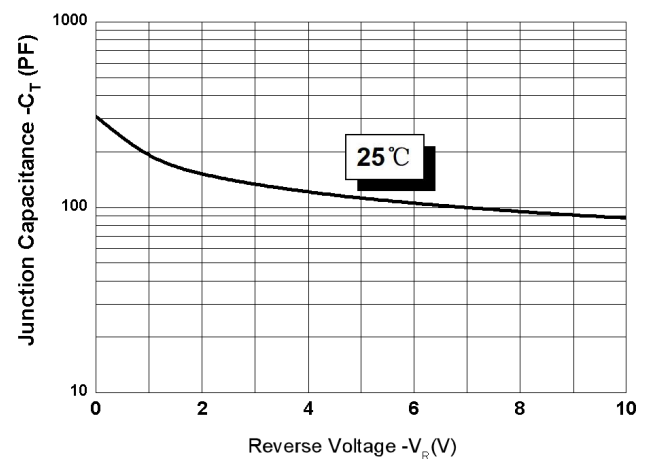
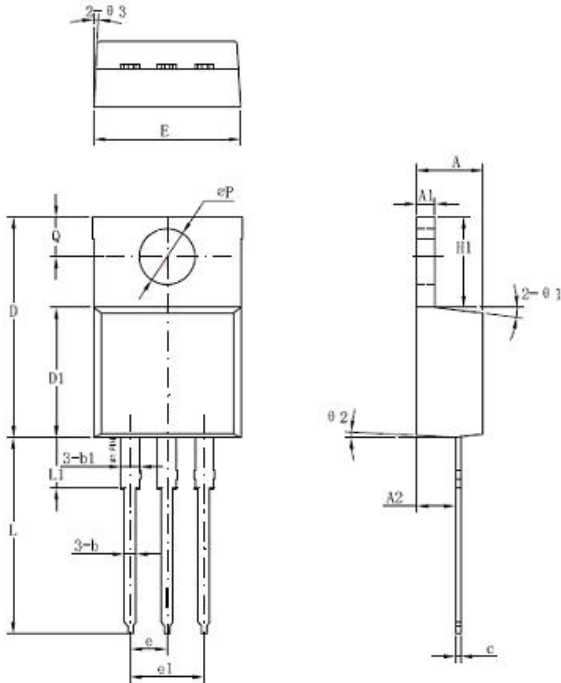


Figure 3 Typical Junction Capacitance

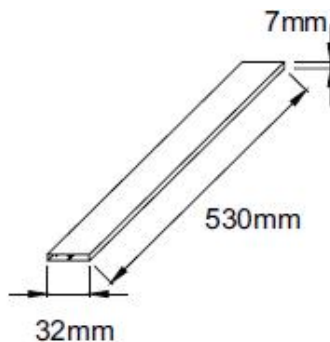


Mechanical Dimensions TO-220AB

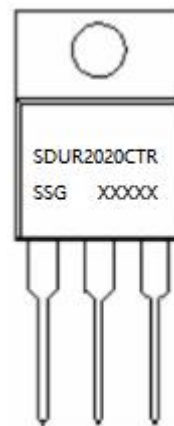


Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	3.56	-	4.83
A1	0.51	-	1.40
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E	9.65	-	10.67
e	-	2.54	-
e1	-	5.08	-
H1	5.84	-	6.86
L	12.70	-	14.73
L1	-	-	6.35
ϕP	-	3.56	-
Q	2.54	-	3.43

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

SDUR = Device Type
20 = Forward Current (20A)
20 = Reverse Voltage(200V)
CTR = Configuration
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information

Device	Package	Shipping
SDUR2020CTR	TO-220AB (Pb-Free)	50 pcs/ tube

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