

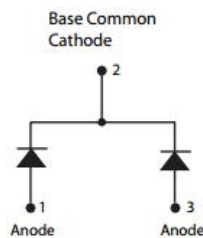
SDUR3020WT ULTRAFAST RECTIFIER



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: Tin Lead-free plated
- 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	V_{RRM}	-	200	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectified Forward Current	$I_{F(AV)}$	$T_c=142^{\circ}C$, 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	Min.	Typ.	Max.	Units
Breakdown voltage, Blocking voltage	V_{BR} V_R	$I_R = 50\mu A$	200	-	-	V
Forward Voltage Drop (Per Leg)*	V_{F1}	@ 15A, Pulse, $T_J = 25^{\circ}C$	-	0.89	1.05	V
	V_{F2}	@ 15A, Pulse, $T_J = 125^{\circ}C$	-	0.77	0.90	V
Reverse Current (Per Leg)*	I_{R1}	@ $V_R =$ rated V_R , $T_J = 25^{\circ}C$	-	0.2	10	μA
	I_{R2}	@ $V_R =$ rated V_R , $T_J = 125^{\circ}C$	-	114	500	μA
Reverse Recovery Time(Per Leg)	t_{rr}	$I_F=500mA$, $I_R=1A$, and $I_{rm}=250mA$	-	32	35	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	0.5	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

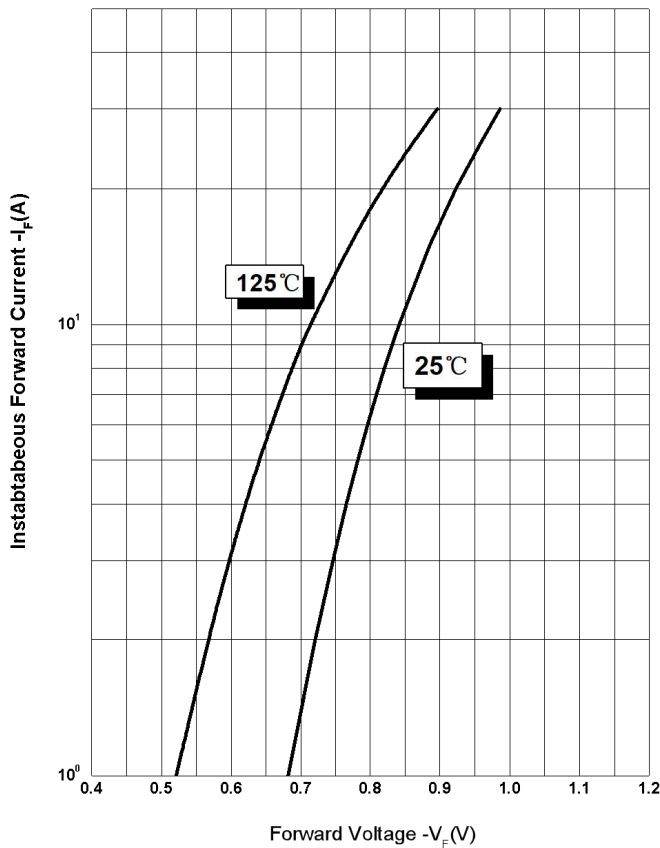


Figure 2 Typical Reverse Characteristics

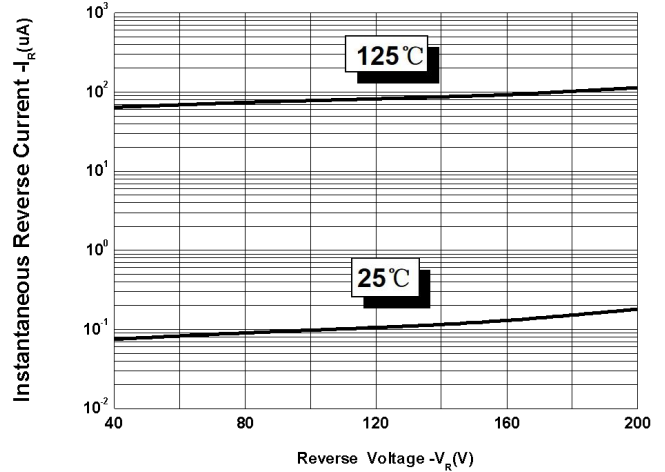
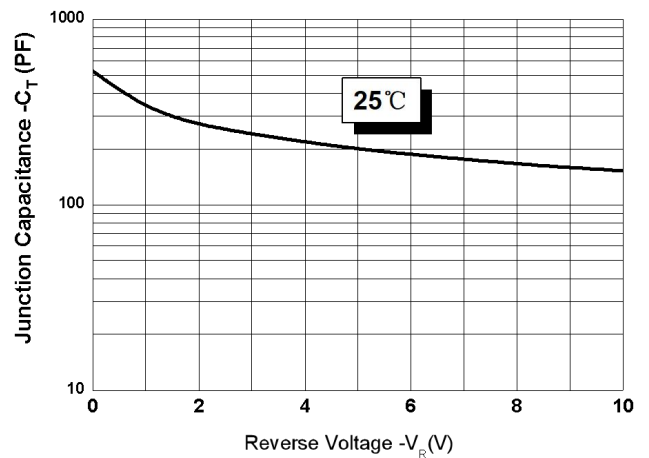


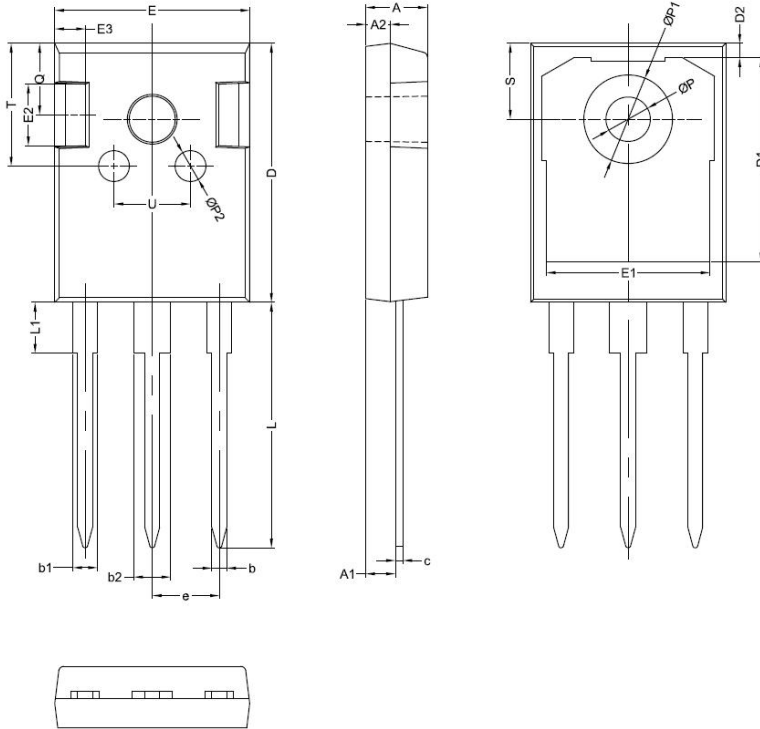
Figure 3 Typical Junction Capacitance



Technical Data
Data Sheet N0164 Rev. B



Mechanical Dimensions TO-247AD

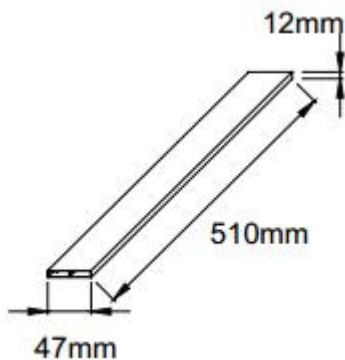


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	3.70
P1	7.1		7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

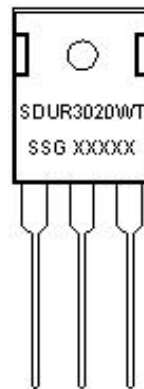
Ordering Information:

Device	Package	Shipping
SDUR3020WT	TO-247AD(Pb-Free)	25pcs / tube

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

- SDUR = Device Type
- 30 = Forward Current (30A)
- 20 = Reverse Voltage (200V)
- WT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

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