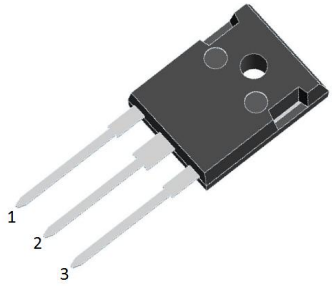
Technical Data
Data Sheet N0164 Rev. A

SDUR3020WT ULTRAFAST RECTIFIER

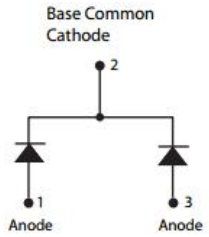


TO-247AD

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
- 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	-	200	V
Average Rectified Forward Current	$I_{F\ (AV)}$	50% duty cycle @Tc=140°C, rectangular wave form	15(Per Leg) 30(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	110	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Min.	Typ.	Max.	Units
Breakdown voltage, Blocking voltage	V_{BR} V_R	I_R = 50μA	200	-	-	V
Forward Voltage Drop (Per Leg)*	V_{F1}	@ 15A, Pulse, T_J = 25°C	-	0.85	1.05	V
	V_{F2}	@ 15A, Pulse, T_J = 125°C	-	0.74	0.90	V
Reverse Current (Per Leg)*	I_{R1}	@V_R = rated V_R, T_J = 25°C	-	0.04	10	μA
	I_{R2}	@V_R = rated V_R ,T_J = 125°C	-	30	500	uA
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%

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RoHS

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	-	6.28	g
Case Style	TO-247AD			

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

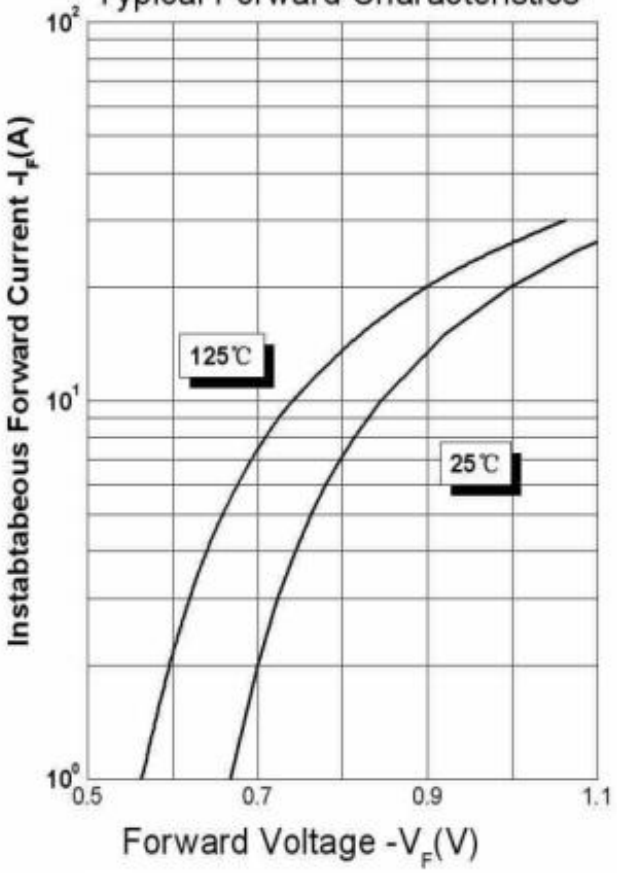


Figure 2
Typical Reverse Characteristics

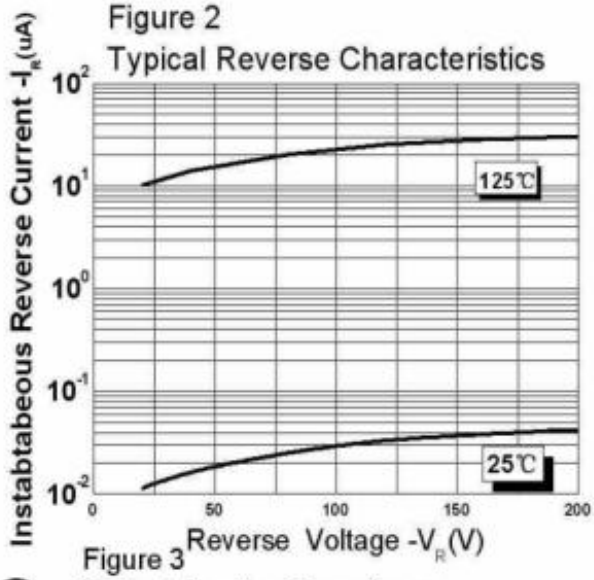
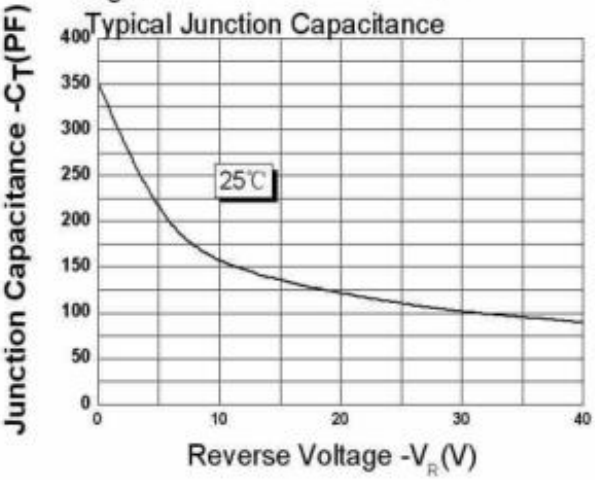


Figure 3
Typical Junction Capacitance



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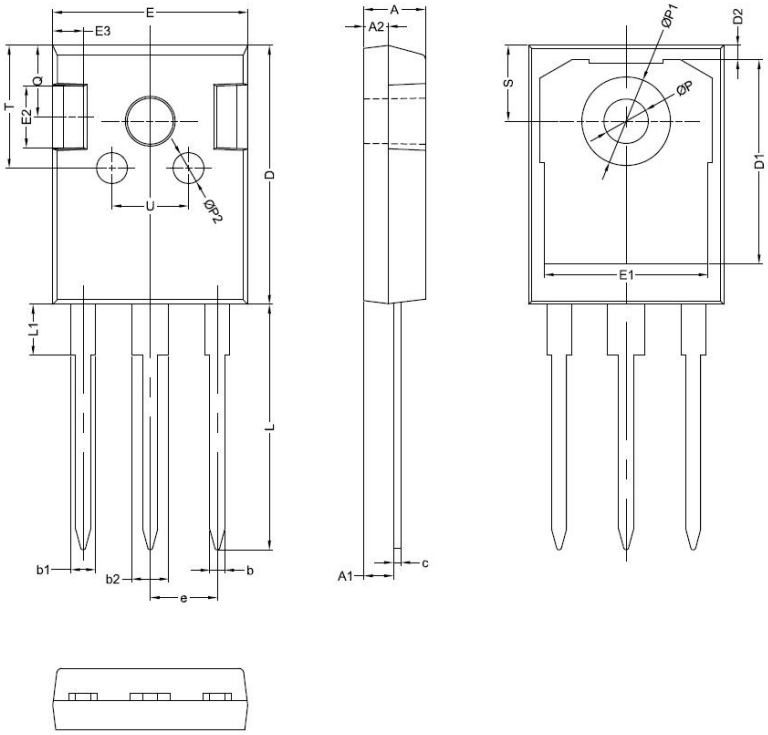
Mechanical Dimensions TO-247AD



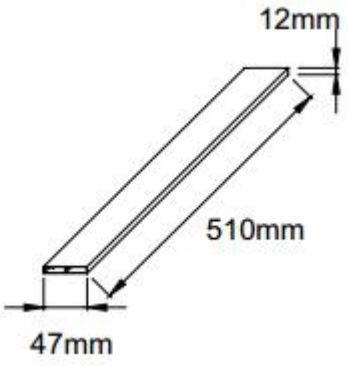
SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	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:

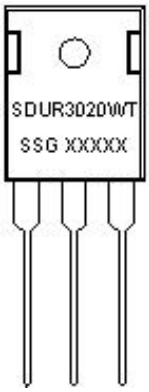
Device	Package	Shipping
SDUR3020WT	TO-247AD(Pb-Free)	25pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

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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