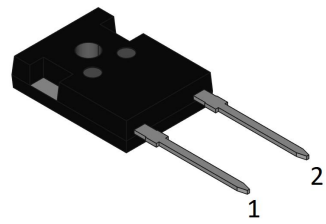
Technical Data
Data Sheet N3205, Rev. -

SDUR60FU120W ULTRAFAST RECTIFIER

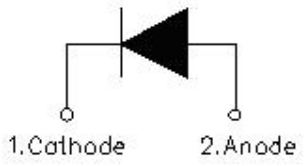


TO-247AC

Applications

- Anti parallel 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=112˚C, In DC	60	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse, Tc=25˚C	540	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@60A, Pulse, T_J = 25°C	2.06	2.50	V
	V_{F2}	@60A, Pulse, T_J = 150°C	1.67	2.00	V
Reverse Current*	I_{R1}	@V_R = rated V_R, T_J = 25°C	0.08	250	uA
	I_{R2}	@V_R = rated V_R, T_J = 150°C	129	500	uA
Reverse Recovery Time	t_{rr1}	I_F=500mA, I_R=1A,and I_{rm}=250mA, T_J = 25°C	68	85	ns
Reverse Recovery Time	t_{rr}	I_F = 1A, di_F/dt = -50A/μs V_R = 30V, T_J = 25°C	51	-	ns
Reverse Recovery Time	t_{rr}	I_F = 30A, di_F/dt = -200A/μs V_R =600V, T_J = 25°C	182	-	ns
Reverse Recovery Charge	Q_{rr}		962	-	nC
Reverse Recovery Current	I_{RRM}		8.4	-	A
Reverse Recovery Time	t_{rr}	I_F = 30A, di_F/dt = -200A/μs V_R =600V, T_J = 125°C	284	-	ns
Reverse Recovery Charge	Q_{rr}		3633	-	nC
Reverse Recovery Current	I_{RRM}		18.2	-	A

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	°C
Storage Temperature	T_{stg}	-	-55 to +175	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.3	°C/W
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AC			

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

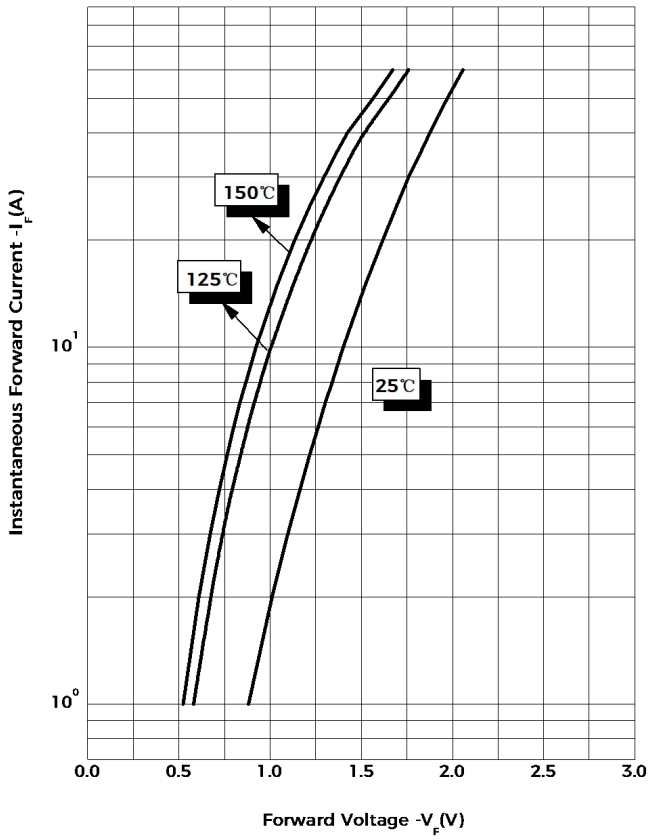


Figure 2 Typical Reverse Characteristics

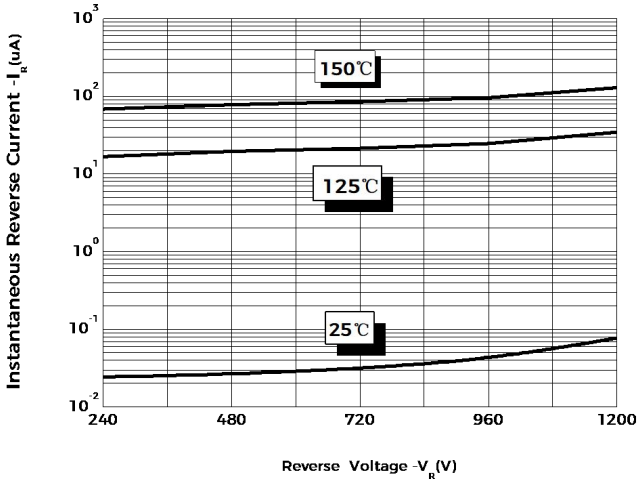
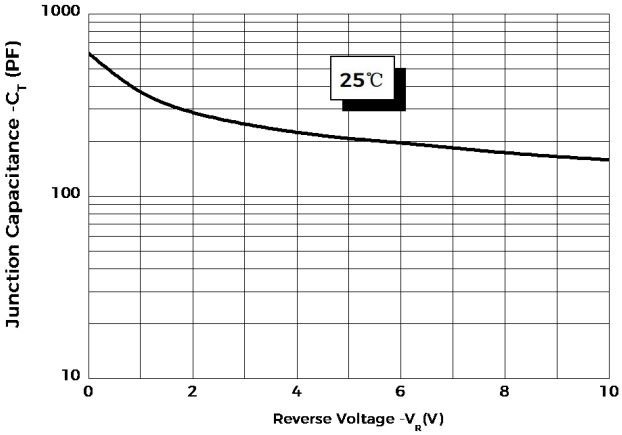


Figure 3 Typical Junction Capacitance



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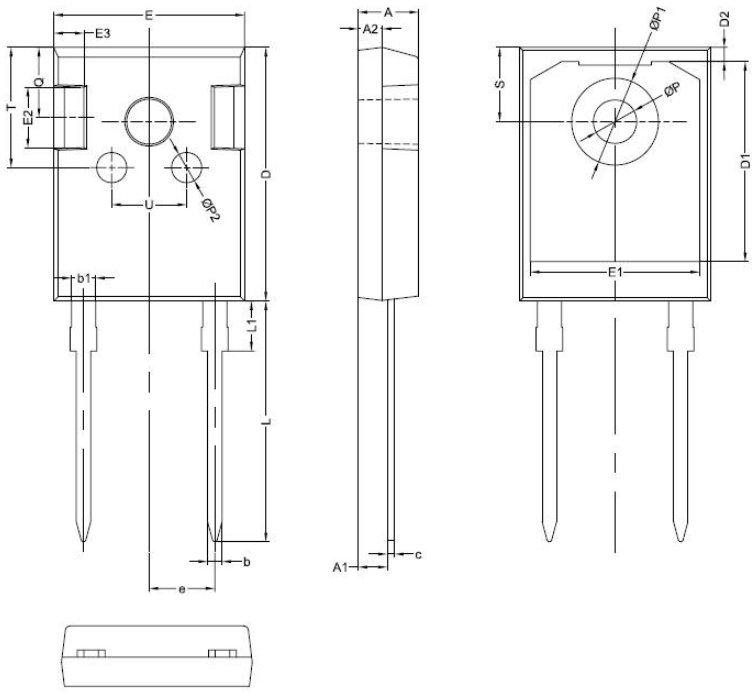
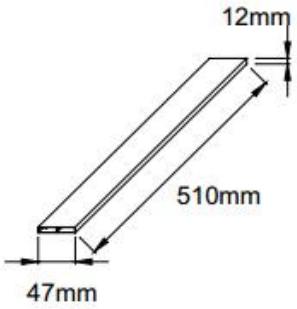
Mechanical Dimensions TO-247AC

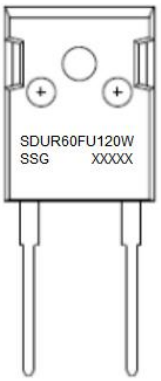


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.35
b1	1.80	2.00	2.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.58	
D2		1.17	
E	15.60	15.80	16.00
E1		14.02	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.42
L1		4.13	
P	3.50	3.60	3.70
P1	7.1	7.19	7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

SDUR = Device Type
60 = Forward Current (60A)
FU = FU
120 = Reverse Voltage (1200V)
W = Configuration
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information

Device	Package	Shipping
SDUR60FU120W	TO-247AC(Pb-Free)	25pcs / tube

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