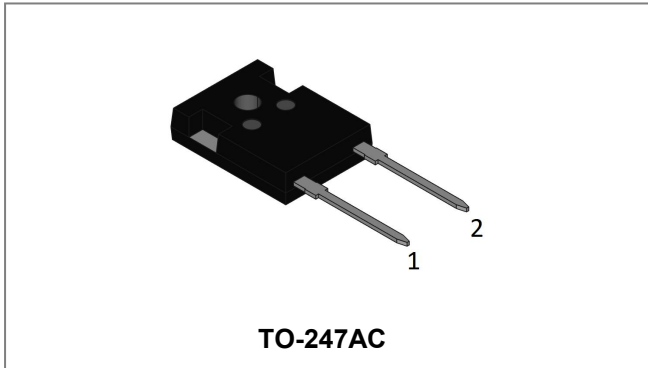


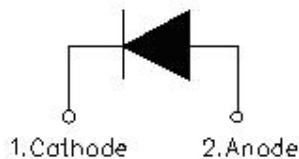
SDUR60H120W ULTRAFAST RECTIFIER



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@ $T_A=25^\circ\text{C}$ 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	-	1200	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c=103^\circ\text{C}$, rectangular wave form	60	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	500	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V _{F1}	@ 60A, Pulse, T _J = 25°C	2.70	3.20	V
	V _{F2}	@ 60A, Pulse, T _J = 125°C	2.20	2.50	V
Reverse Current*	I _{R1}	@V _R = rated V _R , T _J = 25°C	0.40	10	uA
	I _{R2}	@V _R = rated V _R , T _J = 125°C	0.14	4	mA
Reverse Recovery Time	t _{rr}	I _F =500mA, I _R =1A, and I _{rm} =250mA, T _J = 25°C	61	75	ns
Reverse Recovery Time	t _{rr}	I _F = 1A, diF/dt = 50A/μs, V _R = 30V, T _J = 25°C	52	-	ns
Reverse Recovery Charge	Q _{rr}		44	-	nC
Reverse Recovery Current	I _{RRM}		1.7	-	A
Reverse Recovery Time	t _{rr}	I _F = 30A, diF/dt = 200A/μs, V _R = 600V, T _J = 25°C	188	-	ns
Reverse Recovery Charge	Q _{rr}		489	-	nC
Reverse Recovery Current	I _{RRM}		5.2	-	A
Reverse Recovery Time	t _{rr}	I _F = 30A, diF/dt = 200A/μs, V _R = 600V, T _J = 125°C	288	-	ns
Reverse Recovery Charge	Q _{rr}		1786	-	nC
Reverse Recovery Current	I _{RRM}		12.4	-	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 _{θJC}	DC operation	0.34	°C/W
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AC			

Ratings and Characteristics Curves

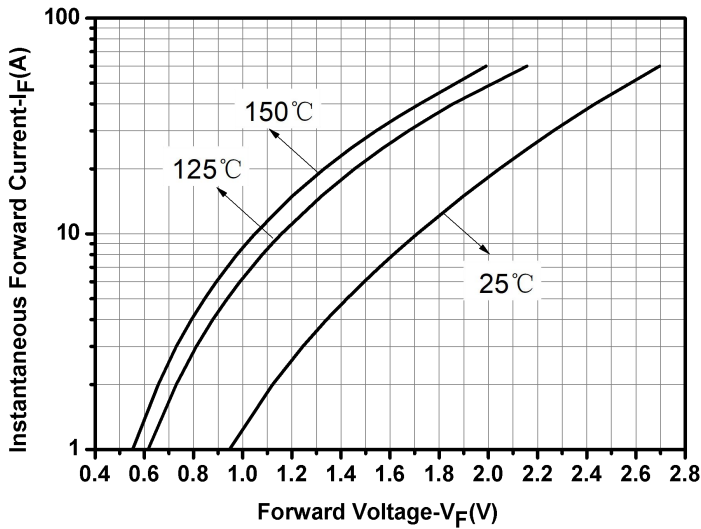


Fig.1-Typical Forward Voltage Characteristics

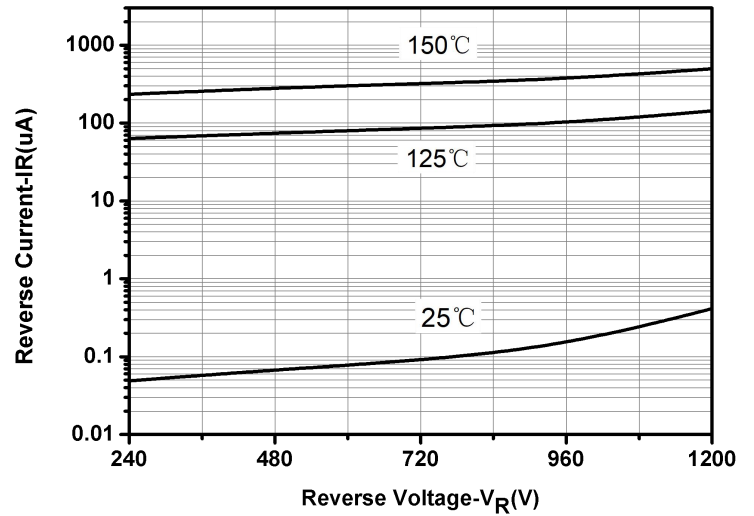


Fig.2-Typical Reverse Characteristics

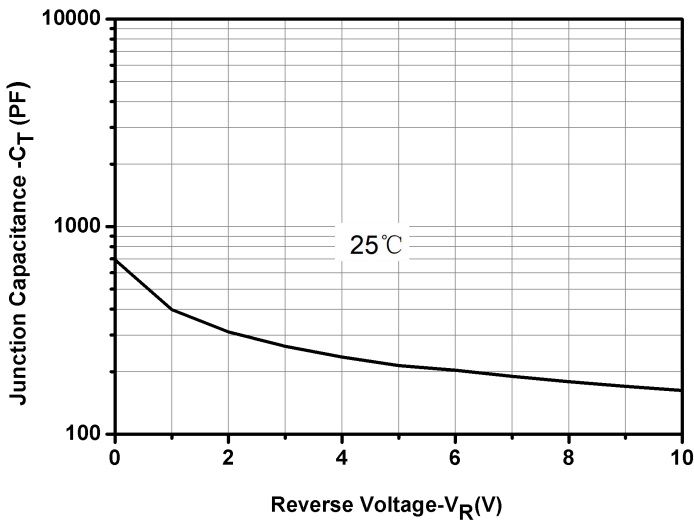


Fig.3-Capacitance vs. Reverse Voltage

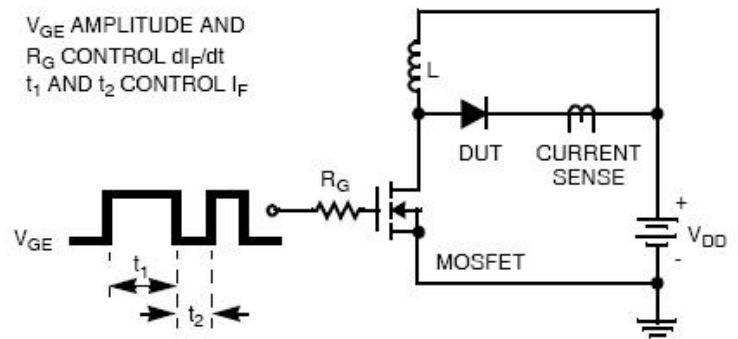
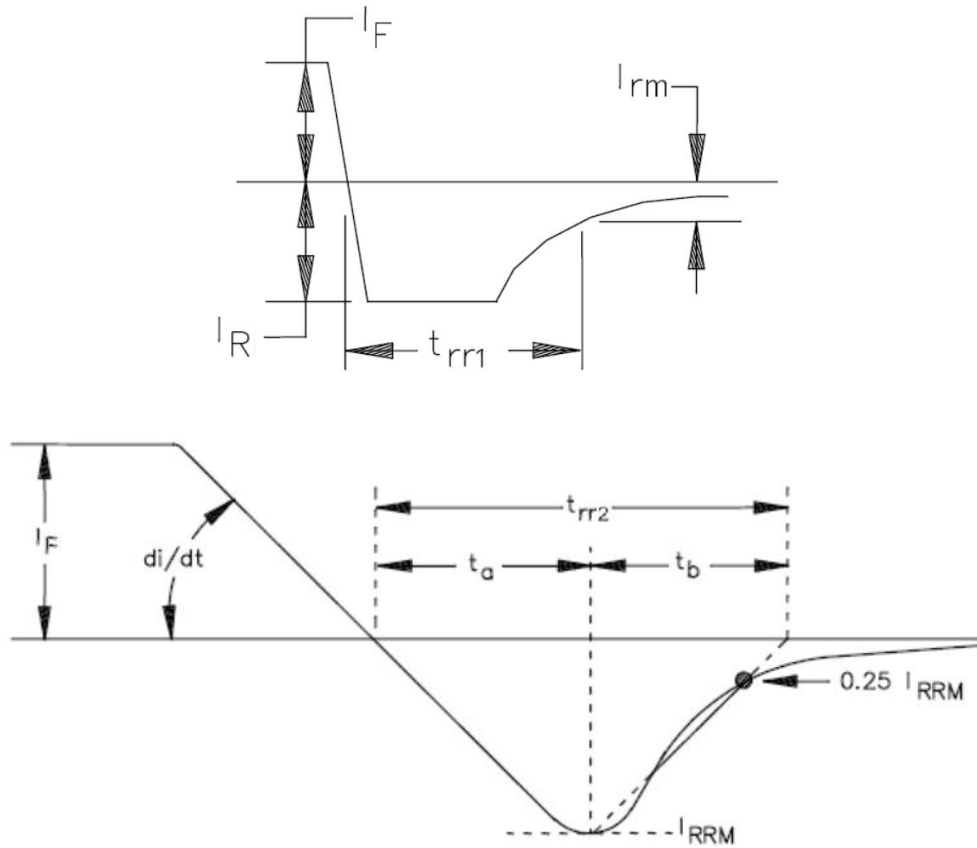


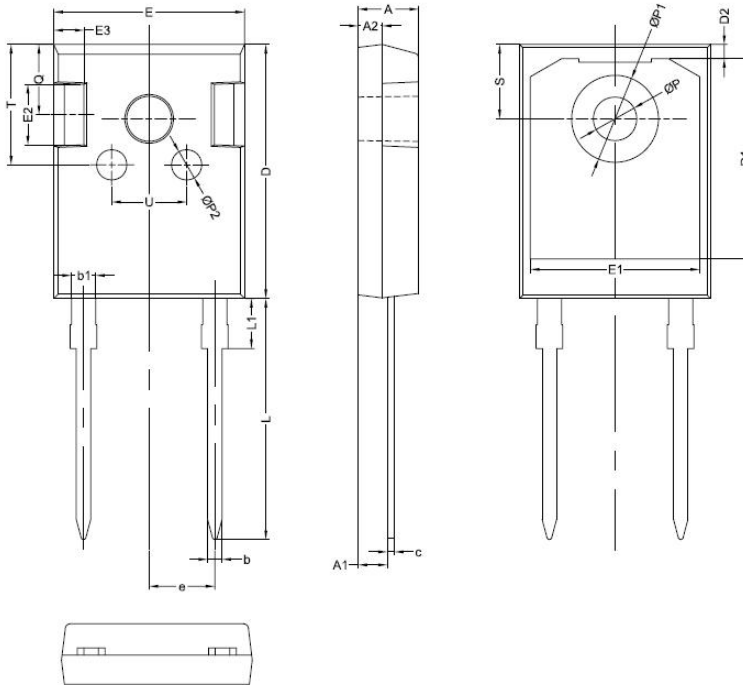
Fig.4-Diode Test Circuit



Note: 1. t_{rr1} MIL-STD-750 Test Method 4031, condition "B".
2. t_{rr2} MIL-STD-750 Test Method 4031, condition "D".

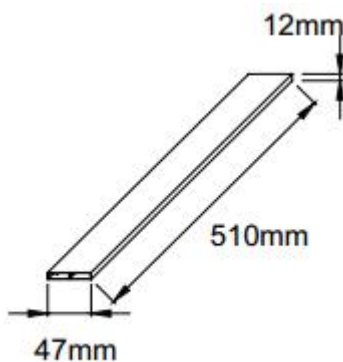
Fig.5-Reverse Recovery Waveform

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)
- H = H
- 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
SDUR60H120W	TO-247AC(Pb-Free)	25pcs / tube

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