

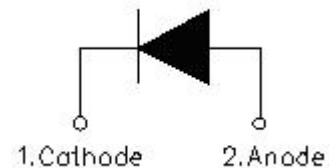
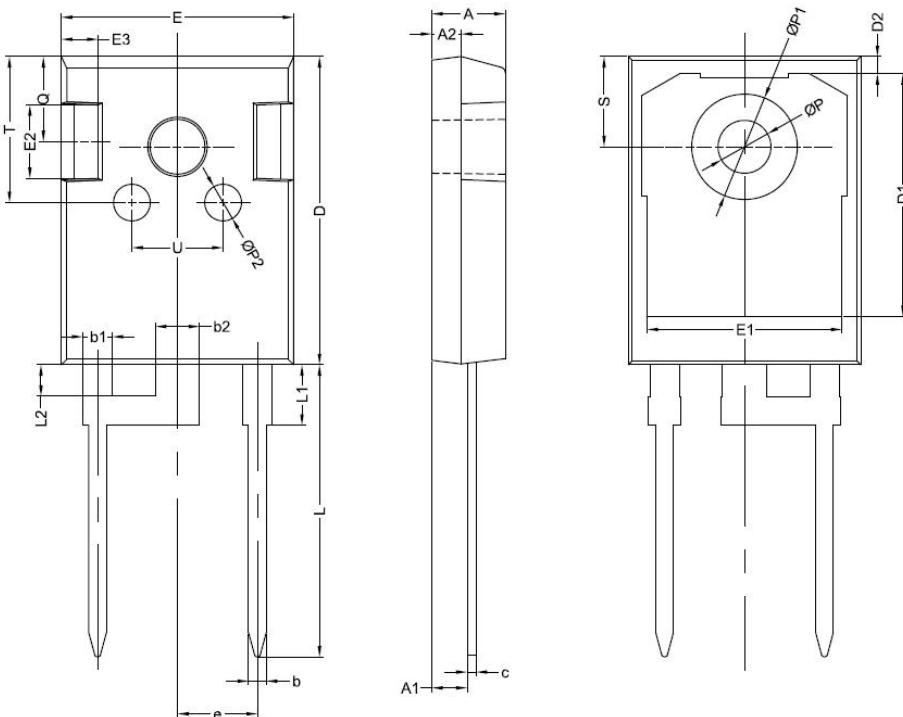
SDUR60P60W ULTRAFAST PLASTIC RECTIFIER

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

Features:

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request


Mechanical Dimensions: In mm


SYMBOL	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.21	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.35
b1		2.00	
b2		3.00	
c	0.55	0.60	0.75
D	20.80	21.00	21.20
D1		16.55	
D2		1.20	
E	15.6	15.8	16.0
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.42
L1		4.13	
L2		2.15	
P	3.50	3.60	3.70
P1	-	-	7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

TO-247AC

Marking Diagram:



Where XXXXX is YYWWL

SDUR = Device Type
 60 = Forward Current (60A)
 P = $T_j = 175^\circ\text{C}$
 60 = Reverse Voltage (600V)
 W = Configuration
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

Ordering Information:

Device	Package	Shipping
SDUR60P60W	TO-247AC (Pb-Free)	25 pcs / tube

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

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	600	V
Average Rectified Forward Current	$I_F (AV)$	50% duty cycle @ $T_C = 70^\circ\text{C}$, rectangular wave form	60	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	400	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 30A, Pulse, $T_J = 25^\circ\text{C}$	1.3	-	V
		@ 60A, Pulse, $T_J = 25^\circ\text{C}$	1.6	1.8	
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	0.13	50	μA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	0.12	1	mA
Reverse Recovery Time	t_{rr1}	$I_F = 500\text{mA}, I_R = 1\text{A}, \text{ and } I_{rm} = 250\text{mA}$	36	50	ns
Reverse Recovery Time	t_{rr2}	$I_F = 1\text{A}; -di/dt = 200\text{A}/\mu\text{s};$ $V_R = 30\text{V}, T_C = 25^\circ\text{C}$	40	-	nS
Recovered Charge	Q_{rr}	$I_F = 1\text{A}; -di/dt = 200\text{A}/\mu\text{s};$ $V_R = 30\text{V}, T_C = 25^\circ\text{C}$	58	-	nC

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.34	$^\circ\text{C}/\text{W}$
Approximate Weight	wt	-	6.7	g
Case Style	TO-247AC			

Figure 1
Typical Forward Characteristics

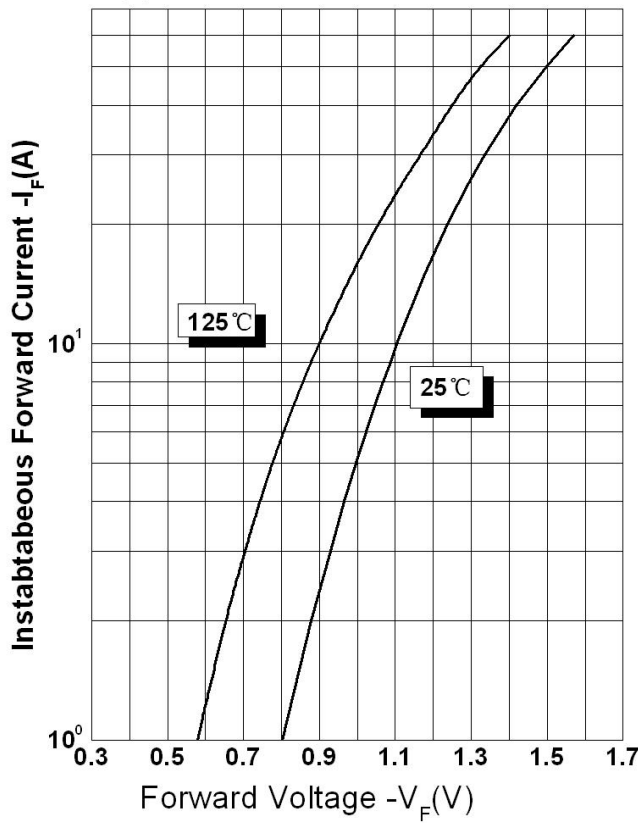


Figure 2
Typical Reverse Characteristics

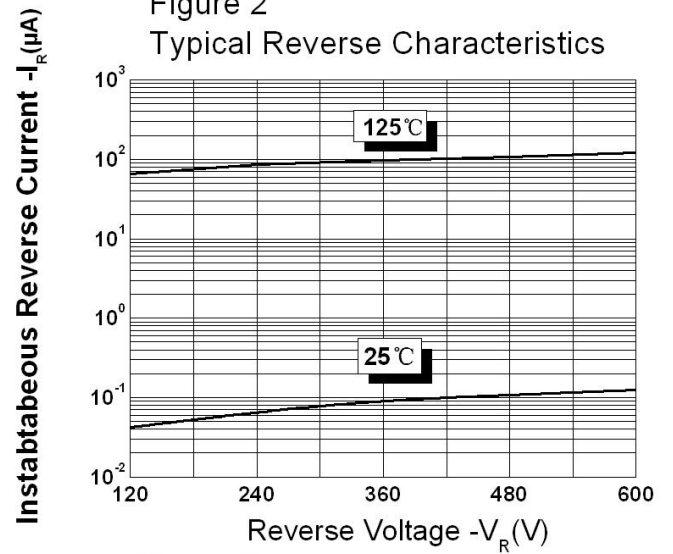
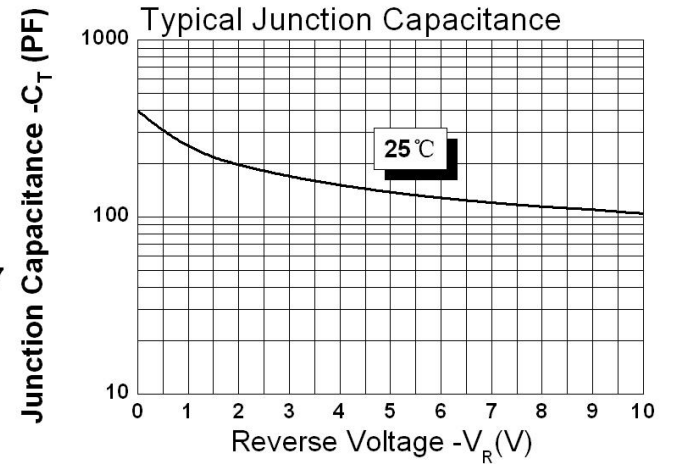
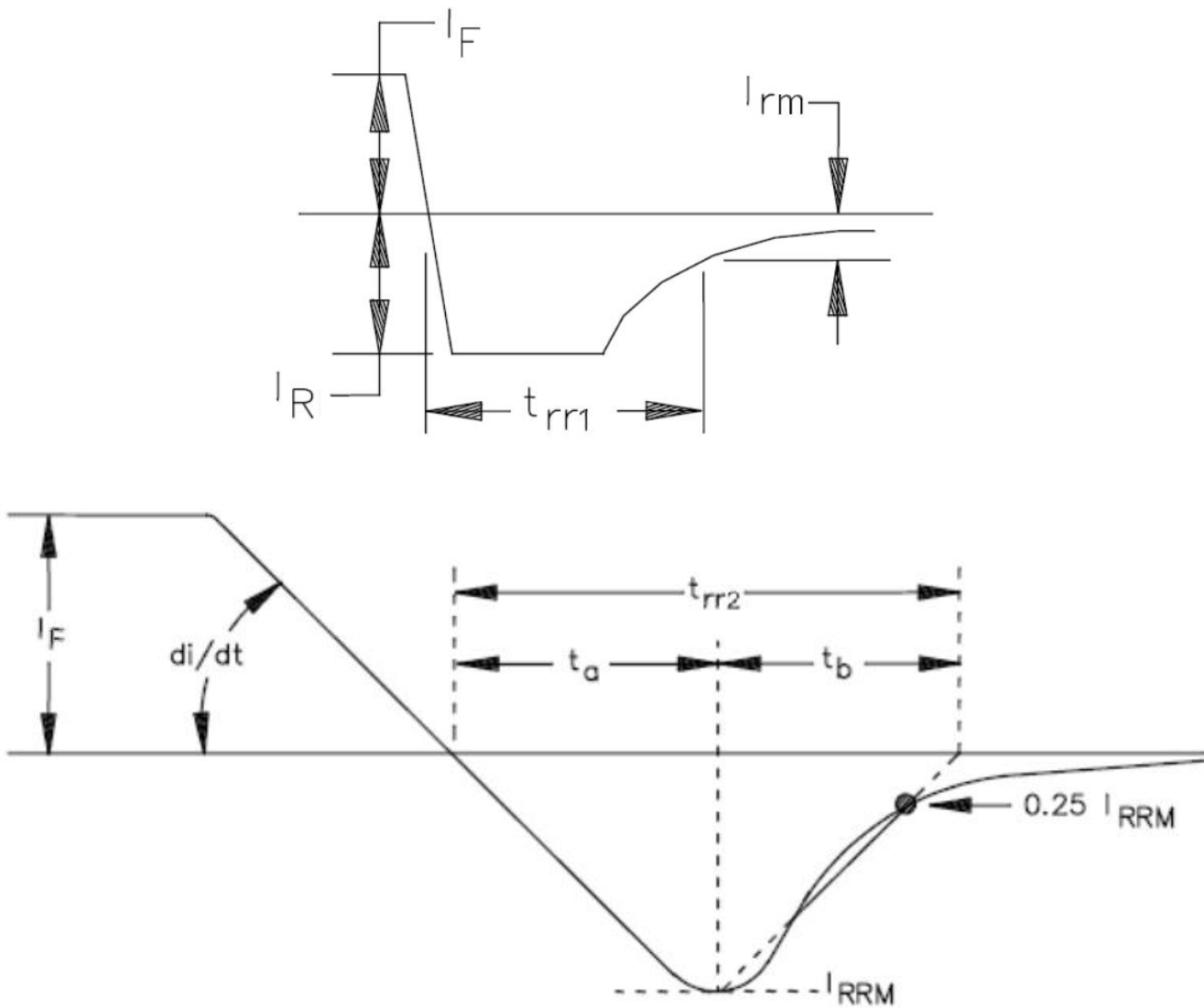


Figure 3
Typical Junction Capacitance





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

Figure 4 - Reverse Recovery Waveform

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