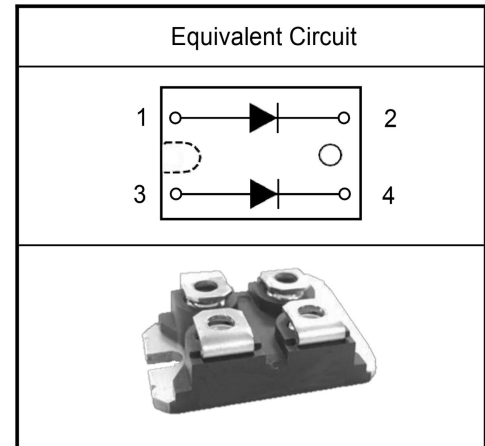


EST100BN60SN

Ultra-Fast Soft Recovery Diode Module

Feature

- Repetitive Reverse Voltage : $V_{RRM}=600V$
- Low Forward Voltage : $V_F(\text{typ.}) = 1.45V$
- Average Forward Current : $I_F(\text{Av.})=100A @TC=100^\circ C$
- Ultra-Fast Reverse Recovery Time : $t_{rr}(\text{typ.}) = 35ns$
- Extensive Characterization of Recovery Parameters
- Reduced EMI and RFI
- Isolation Type Package



Applications

- High Speed & High Power converters, Welders
- Various Switching and Telecommunication Power Supply

Absolute Maximum Ratings @ $T_c = 25^\circ C$ (Per Leg)

Symbol	Parameter	Conditions	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		600	V
$V_{R(DC)}$	Reverse DC Voltage		480	
$I_{F(AV)}$	Average Forward Current	$T_c = 25^\circ C$	200	A
		$T_c = 100^\circ C$	100	
I_{FSM}	Surge(non-repetitive) Forward Current	One Half Cycle at 60Hz, Peak Value	1400	
I^2_t	I^2t for Fusing	Value for One Cycle Current, $t_w = 8.3ms, T_j = 25^\circ C$ Start	8.13×10^3	A^2s
T_j	Junction Temperature		-40~150	$^\circ C$
T_{stg}	Storage Temperature		-40~125	
V_{isol}	Isolation Voltage	@ AC 1minute	2500	V
P_d	Maximum Power Dissipation		340	W
-	Mounting Torque		1.45	N.m
-	Terminal Torque		1.45	
-	Weight	Typical Including Screw	26.5	g

Thermal Characteristic

Symbol	Parameter	Conditions	Value			Unit
			Min	Type	Max	
$R_{th(j-c)}$	Thermal Resistance	Junction to Case	-	-	0.48	°C/W

Electrical Characteristics @ $T_c = 25^\circ\text{C}$ (unless otherwise specified)

Symbol	Parameter	Conditions	Min	Type	Max	Unit
V_R	Cathode Anode Breakdown Voltage	$I_R=100\mu\text{A}$	600	-	-	V
V_{FM}	Diode Maximum Forward Voltage	$I_F=100\text{A}$	-	1.45	1.56	
		$T_C=25^\circ\text{C}$	-	1.35	-	
		$T_C=100^\circ\text{C}$	-	1.35	-	
I_{RRM}	Diode Peak Reverse Recovery Current	$V_{RRM}, V_{applied} T_C=100^\circ\text{C}$	-	-	1	mA
T_{RR}	Diode Reverse Recovery Time	$I_F = 1\text{A}, V_R=30\text{V}, di/dt = -200\text{A/us}$ $T_C=25^\circ\text{C}$	-	35	55	ns
T_{RR}	Diode Reverse Recovery Time	$I_F = 100\text{A}, V_R=300\text{V}$ $di/dt = -200\text{A/us}$	-	90	-	
		$T_C=25^\circ\text{C}$	-	90	-	
		$T_C=100^\circ\text{C}$	-	160	-	

Typical Performance Curves

Fig.1 Forward Voltage vs. Instantaneous Current

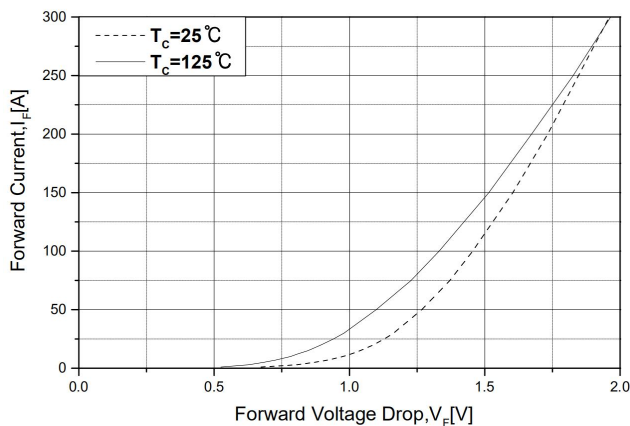


Fig.2 Reverse Recovery Time vs -di/dt

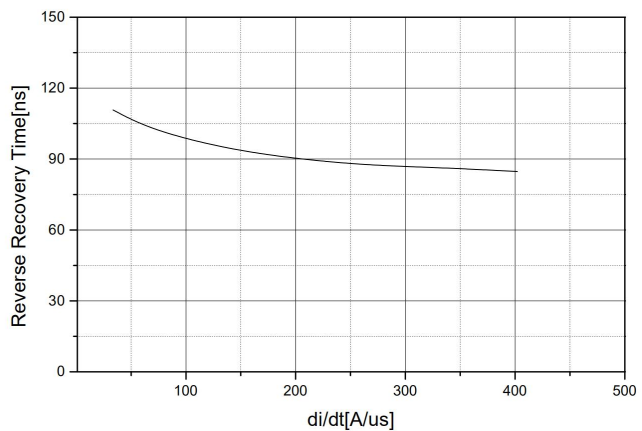


Fig.3 Transient Thermal Impedance characteristic

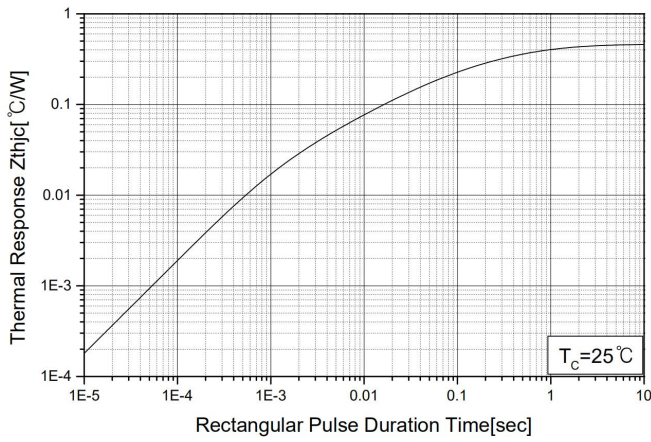
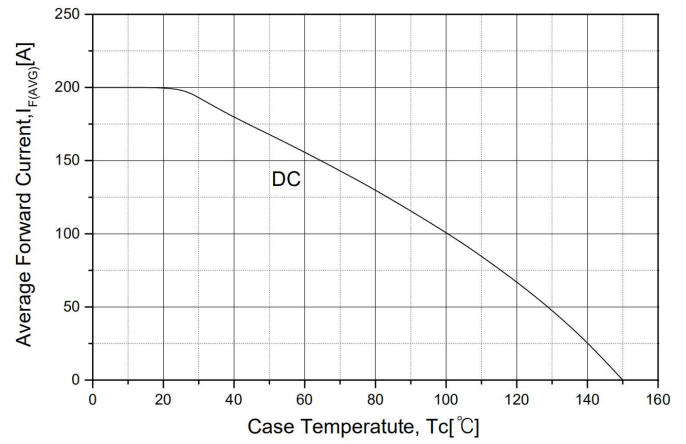
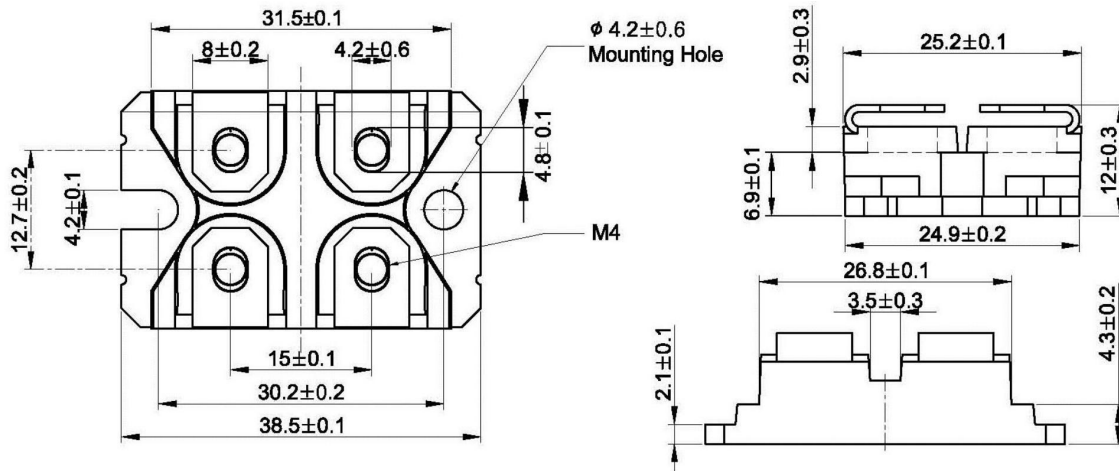


Fig.4 Forward Current Derating Curve



Package Dimension



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