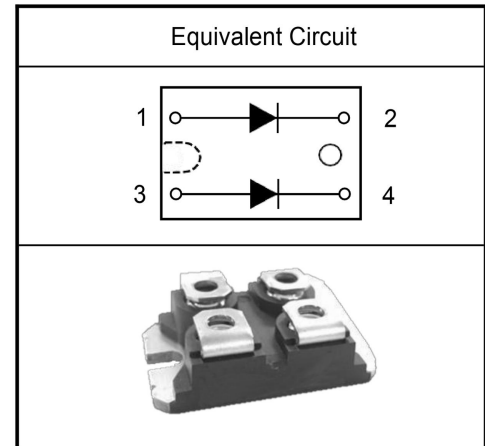


### EST100BN60SN

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	$8.13 \times 10^3$	$A^2s$
$T_j$	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	
-	Weigh	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	$^{\circ}C/W$

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

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

## Typical Performance Curves

Fig.1 Forward Voltage vs. Instantaneous Current

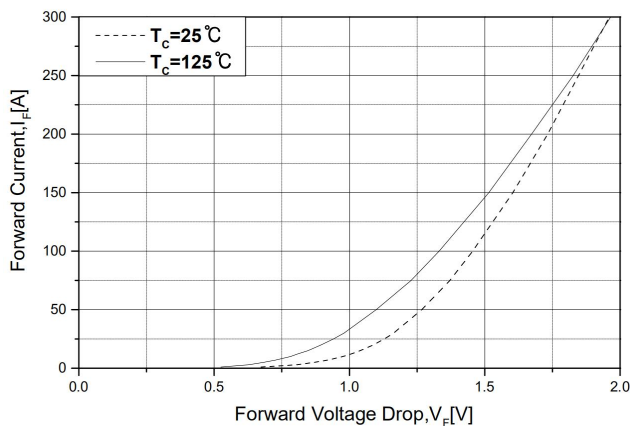


Fig.2 Reverse Recovery Time vs -di/dt

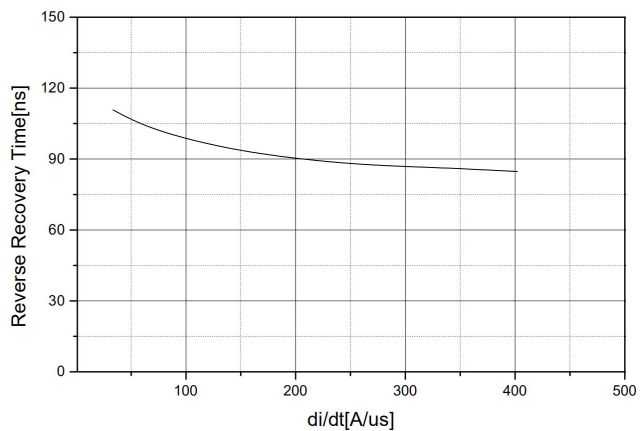


Fig.3 Transient Thermal Impedance characteristic

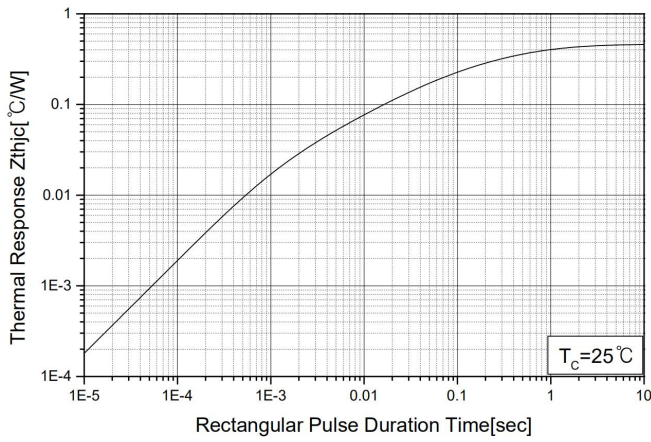
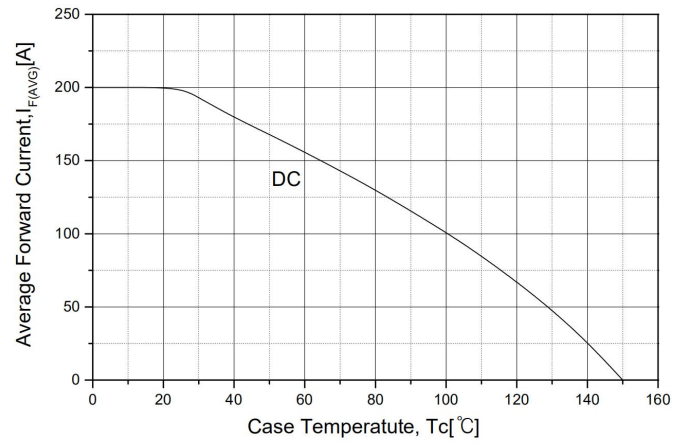


Fig.4 Forward Current Derating Curve



## Package Dimension

