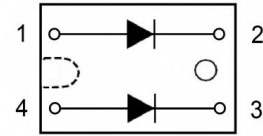
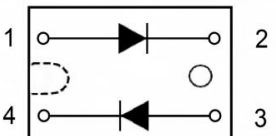


EST100BN(FN)120SN

Ultra-Fast soft Recovery Diode Module

Feature

- Repetitive Reverse Voltage : $V_{RRM}=1200V$
- Low Forward Voltage : $V_F(\text{typ.}) = 1.6V$
- Average Forward Current :
 $I_F(\text{Av.})=100A @T_C=100^\circ C$
- Reverse Recovery Time : $t_{rr}(\text{typ.}) = 180ns$
- Extensive Characterization of Recovery Parameters
- Reduced EMI and RFI
- Isolation Type Package

EST100BN120SN

SOT-227
EST100FN120SN

SOT-227

SOT-227-L

Applications

- Welding Machine
- Induction Heating
- UPS

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

Symbol	Parameter		Conditions	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage			1200	V
$V_{R(DC)}$	Reverse DC Voltage			1200	
$I_{F(AV)}$	Average Forward Current	$T_C = 25^\circ C$	Resistive Load	200	A
		$T_C = 100^\circ C$		100	
I_{FSM}	Surge(non-repetitive) Forward Current		One Half Cycle at 60Hz, Peak Value	1400	
I^2t	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			337	W
-	Mounting Torque		M4	1.45	N.m
-	Terminal Torque		M4	1.45	

Electrical Characteristics @T_c = 25°C (unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _R	Cathode Anode Breakdown Voltage	I _R =100uA	1200	-	-	V
V _{FM}	Diode Maximum Forward Voltage	I _F =100A	T _C =25°C	-	1.60	V
			T _C =125°C	-	1.60	
I _{RRM}	Diode Peak Reverse Recovery Current	V _R =V _{RRM} , V _{applied} T _C =100°C	-	-	2.0	mA
t _{rr}	Diode Reverse Recovery Time	I _F =100A, V _R =600V di/dt = 200A/us	T _C =25°C	-	180	ns
			T _C =125°C	-	240	

Thermal Characteristics and weight

Symbol	Parameter	Conditions	Value			Unit
			Min	Type	Max	
R _{th(j-c)}	Thermal Resistance	Junction to Case, per FRD	-	-	0.37	°C/W
weight	Weight of module	SOT-227			30	g
		SOT-227-L			33	g

Type Characteristic Curve

Fig. 1 Typical Forward Voltage Drop vs. Instantaneous Current

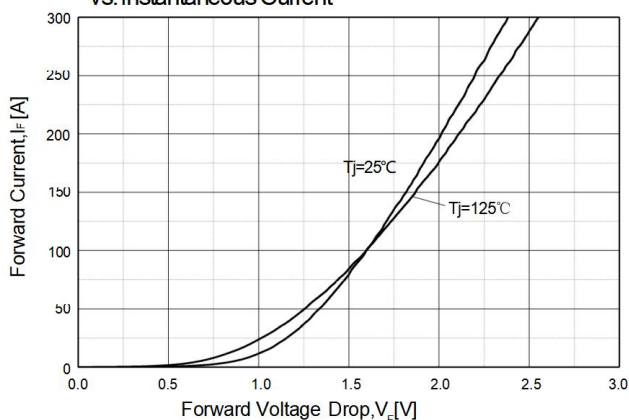


Fig. 2 Typical Reverse Recovery Time vs. -di/dt

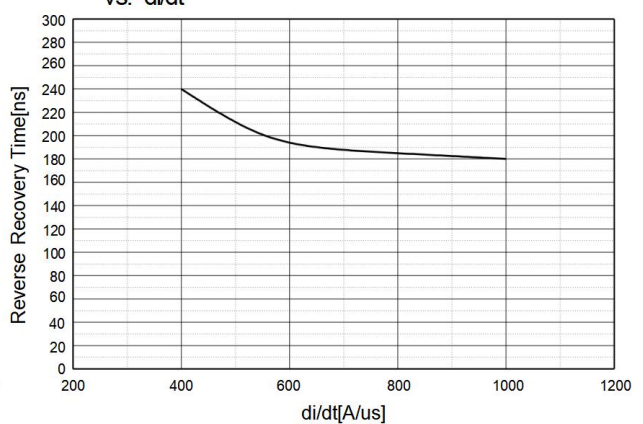


Fig. 3 Transient Thermal Impedance(Z_{thjc}) Characteristics

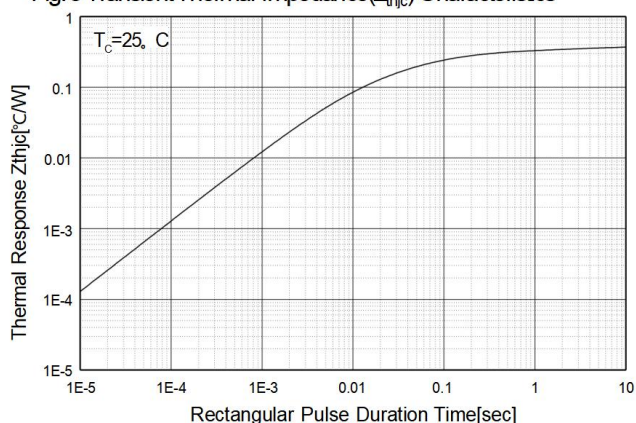
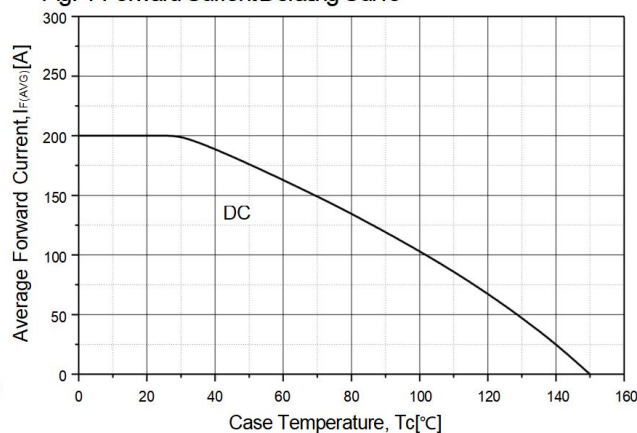
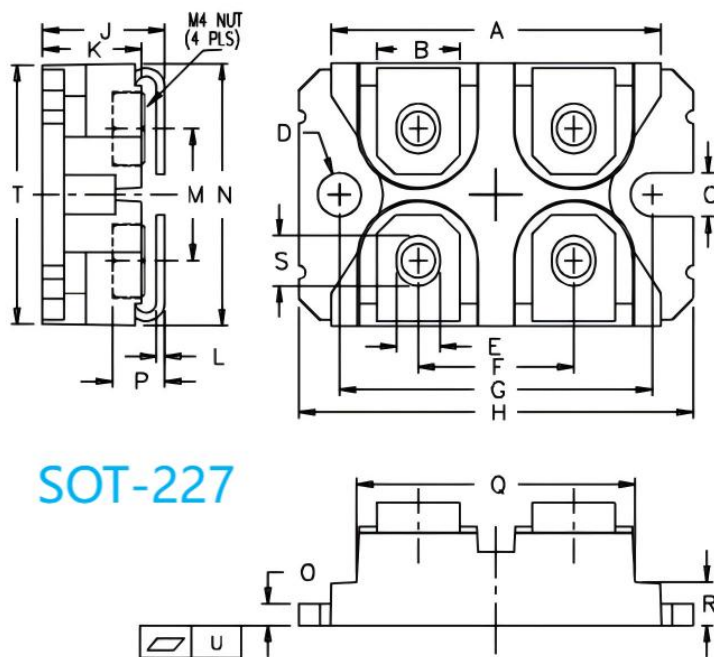


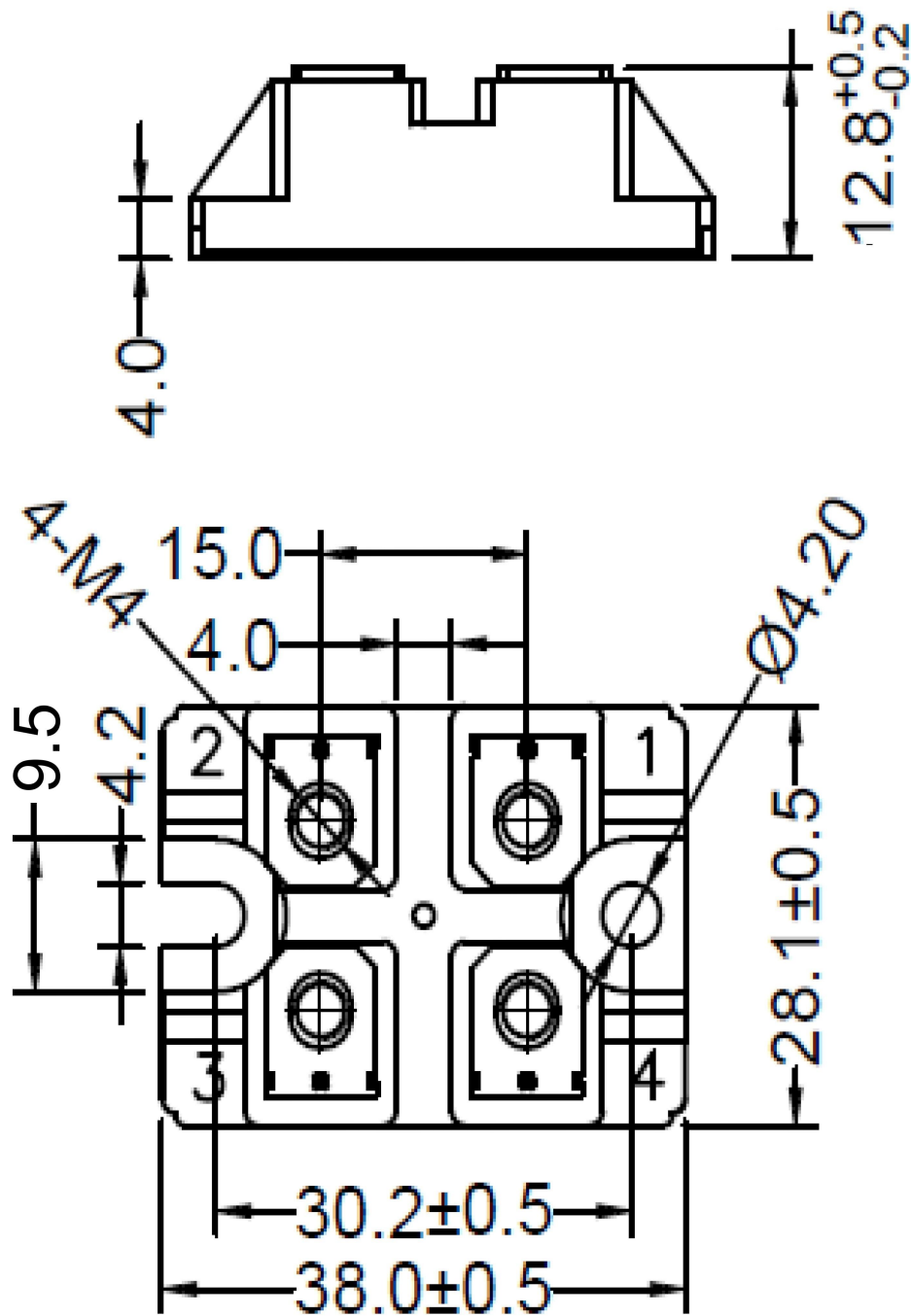
Fig. 4 Forward Current Derating Curve



Package Outline(mm)



Dim.	Milimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.66	32.06	1.246	1.262
B	7.80	8.20	0.307	0.323
C	4.00	4.40	0.157	0.173
D	4.00	4.40	0.157	0.173
E	4.00	4.40	0.157	0.173
F	14.45	14.85	0.569	0.585
G	30.00	30.40	1.181	1.197
H	37.99	38.39	1.496	1.511
J	11.67	12.07	0.459	0.475
K	9.33	9.73	0.367	0.383
L	0.65	1.05	0.025	0.041
M	12.15	12.55	0.478	0.494
N	24.90	25.30	0.980	0.996
O	1.85	2.25	0.073	0.089
P	5.00	5.40	0.197	0.213
Q	26.60	27.00	1.047	1.063
R	4.05	4.45	0.159	0.175
S	4.49	4.89	0.177	0.193
T	24.78	25.18	0.976	0.991
U	-0.05	0.10	-0.002	0.004



Unspecified dimensional tolerance: ± 0.3

SOT-227-L