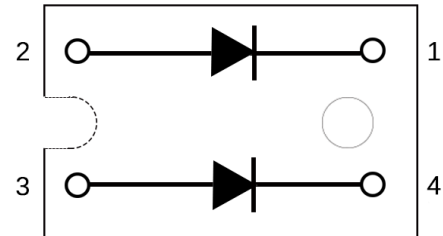


EST120BN40SN

Ultra-Fast Reverse Recovery Diode Module

Feature

- Ultra fast Reverse Recovery Time
- Soft Reverse Recovery Characteristics
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package



Applications

- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- Power Factor Correction (PFC) Circuit



Absolute Maximum Ratings @Tc = 25°C (Per Leg)

Symbol	Parameter	Conditions	Ratings	Unit
V_R	D.C Reverse Voltage		400	V
V_{RRM}	Repetitive Peak Reverse Voltage		400	V
$I_{F(AV)}$	Average Forward Current	Tc=110°C, Per Diode	120	A
		Tc=120°C, 20KHz, Per Module	240	A
$I_{F(RMS)}$	RMS Forward current	Tc=110°C, Per Diode	150	A
I_{FSM}	Surge(non-repetitive) Forward Current	TJ=45°C, t=10ms, 50Hz, Sine	1200	A
		TJ=45°C, t=8.3ms, 60Hz, Sine	1310	A
I^2t	I^2t for Fusing coordination	TJ=45°C, t=10ms, 50Hz, Sine	7200	A ² s
		TJ=45°C, t=8.3ms, 60Hz, Sine	7122	A ² s
P_D	Power Dissipation		781	W
T_j	Junction Temperature		-40~150	°C
T_{stg}	Storage Temperature		-40~125	
V_{isol}	Isolation Voltage	@ AC 1minute	3000	V
-	Mounting Torque	M4	0.7-1.1	N.m
-	Terminal Torque	M4	0.7-1.1	
-	Weigh	Typical Including Screw	28.5	g

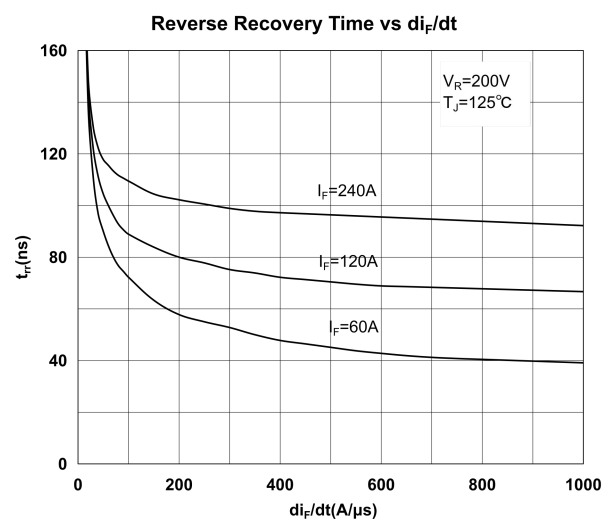
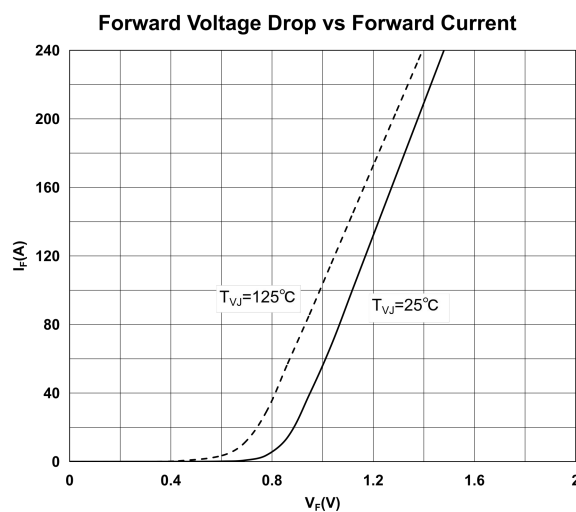
Thermal Characteristics

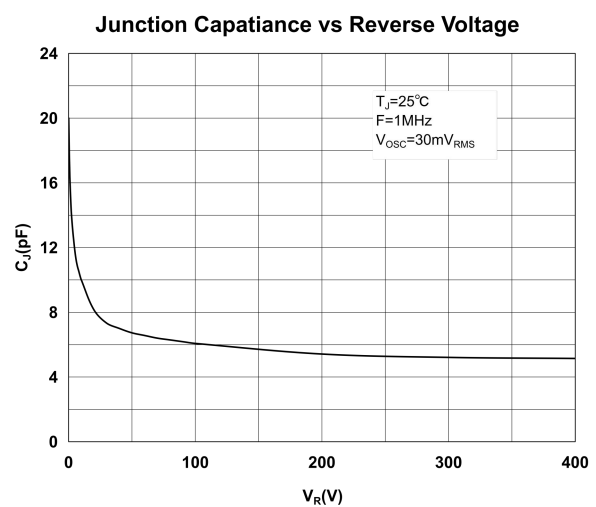
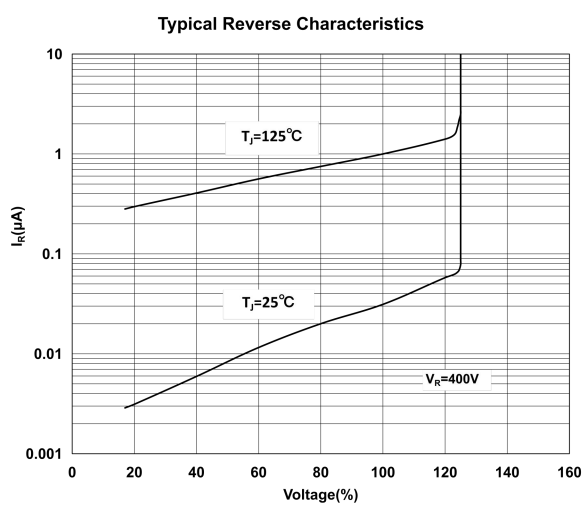
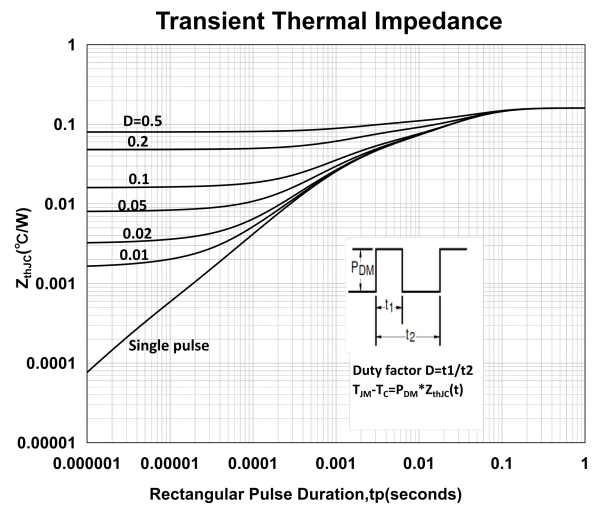
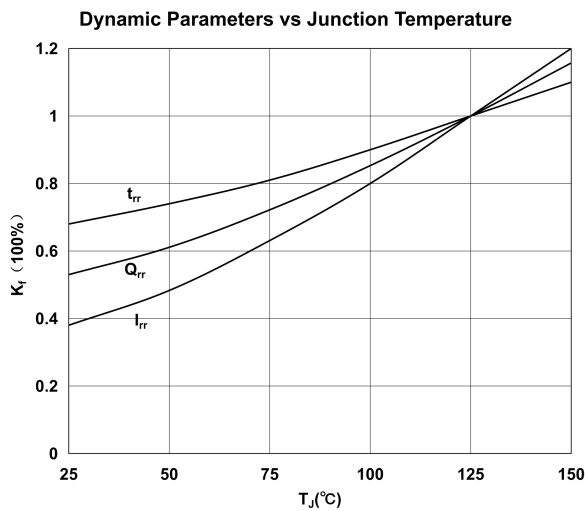
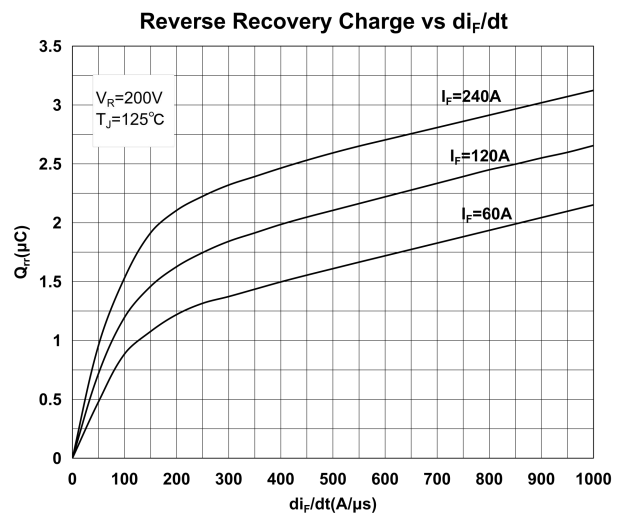
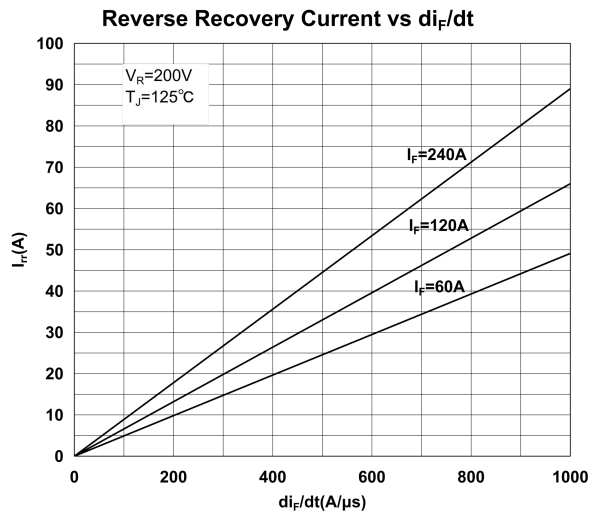
Symbol	Parameter	Conditions	Value			Unit
			Min	Type	Max	
$R_{th(j-c)}$	Thermal Resistance	Junction to Case	-	-	0.16	$^{\circ}\text{C/W}$

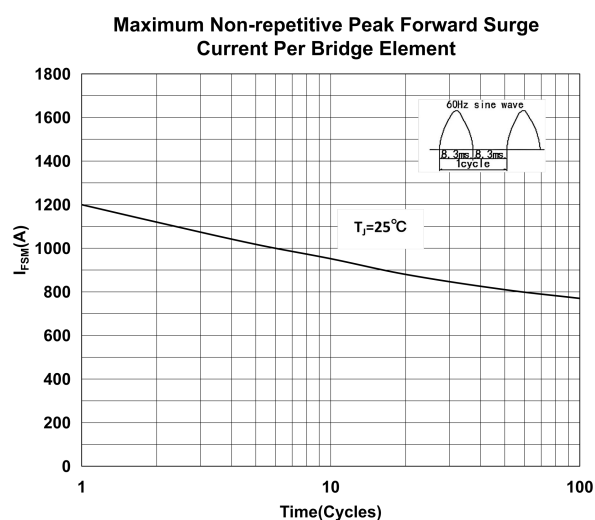
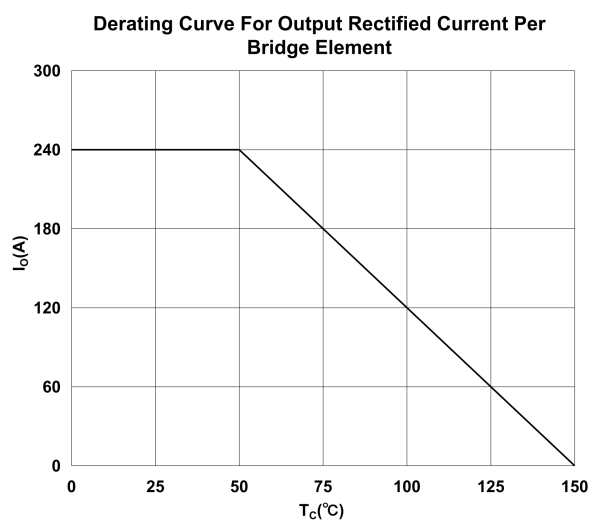
Electrical Characteristics @ $T_c = 25^{\circ}\text{C}$ (unless otherwise specified)

Symbol	Parameter	Conditions	Min	Type	Max	Unit
V_{BR}	Reverse breakdown Voltage	$I_R=100\mu\text{A}$	400			V
I_{RM}	Reverse Leakage Current	$V_R=400\text{V}$	-	-	0.5	mA
		$V_R=400\text{V}, T_J=125^{\circ}\text{C}$	-	-	3	mA
V_F	Forward Voltage	$I_F=100\text{A}$	-	1.12	1.4	V
		$I_F=100\text{A}, T_J=125^{\circ}\text{C}$	-	0.98	-	
t_{rr}	Reverse Recovery Time	$I_F=1\text{A}, V_R=30\text{V}, di_F/dt=-200\text{A}/\mu\text{s}$	-	40	-	ns
t_{rr}	Reverse Recovery Time	$I_F=120\text{A}, V_R=200\text{V}, di/dt=-200\text{A}/\mu\text{s}, T_C=25^{\circ}\text{C}$	-	55	-	ns
Q_{rr}	Reverse Recovery Charge		-	0.8	-	μC
I_{rr}	Max. Reverse Recovery Current		-	7	-	A
t_{rr}	Reverse Recovery Time	$I_F=120\text{A}, V_R=200\text{V}, di/dt=-200\text{A}/\mu\text{s}, T_C=125^{\circ}\text{C}$	-	80	-	ns
Q_{rr}	Reverse Recovery Charge		-	2.1	-	μC
I_{rr}	Max. Reverse Recovery Current		-	13	-	A

Electrical characteristics(Curves)







Package Dimension

