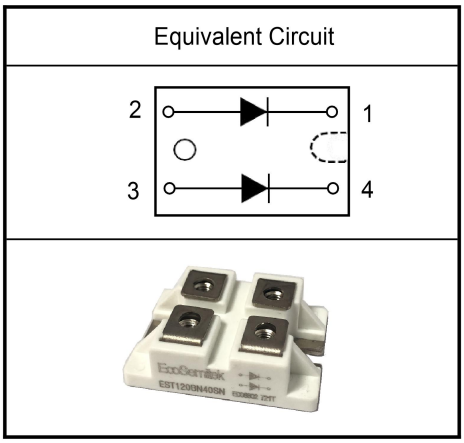
EST120BN40SN

Ultra-Fast Reverse Recovery Diode Module

Feature

- Ultrafast 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℃ (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℃,Per Diode	120	A
		Tc=120℃,20KHz,Per Moudle	240	A
$I_{F(RMS)}$	RMS Forward current	Tc=110℃,Per Diode	150	A
I_{FSM}	Surge(non-repetitive) Forward Current	TJ=45℃,t=10ms,50Hz,Sine	1200	A
		TJ=45℃, t=8.3ms,60Hz,Sine	1310	A
I^2t	I2t for Fusing coordination	TJ=45℃,t=10ms,50Hz,Sine	7200	A^2s
		TJ=45℃, t=8.3ms,60Hz,Sine	7122	A^2s
P_D	Power Dissipation		694	W
T_j	Junction Temperatur		-40~150	℃
T_{stg}	Storage Temperatur		-40~125	
Visol	Isolation Voltag	@ AC 1minute	3000	V
-	Mounting Torqu	M4	0.7-1.1	N.m
-	Terminal Torqu	M4	0.7-1.1	
-	Weigh	Typical Including Screw	28.5	g

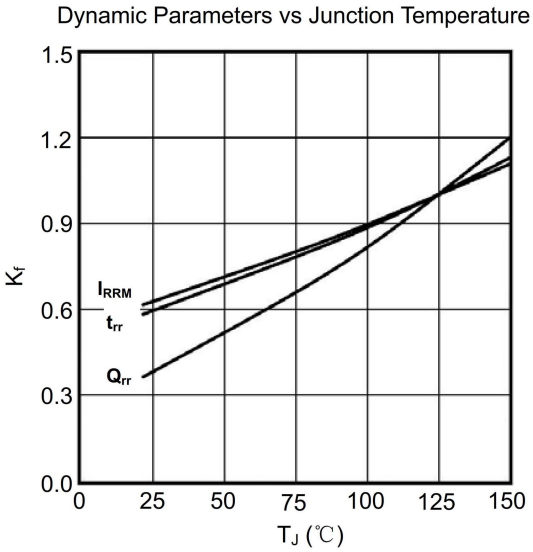
Thermal Characteristics

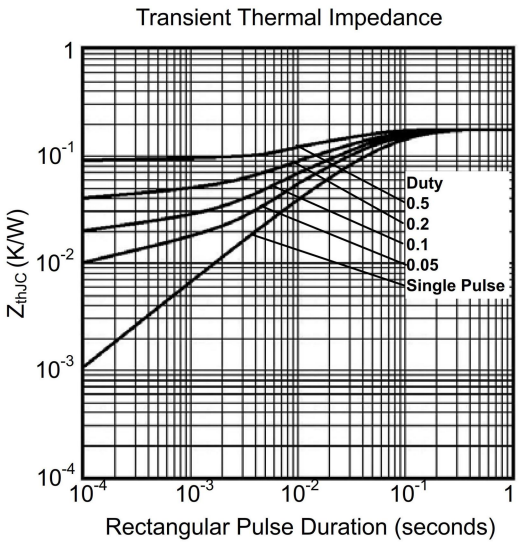
Symbol	Parameter	Conditions	Value			Unit
			Min	Typ	Max	
$R_{th\ (j\text{-}c)}$	Thermal Resistance	Junction to Cas	-	0.18	-	℃/W

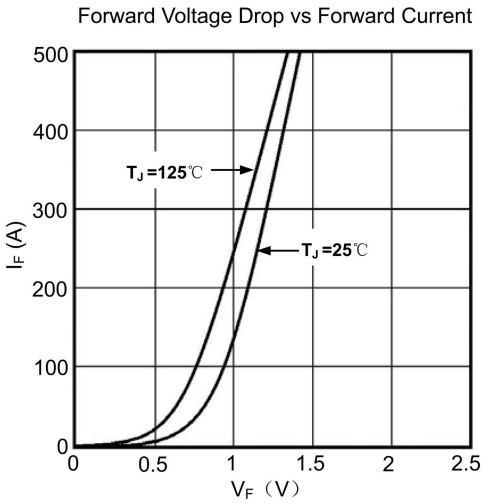
Electrical Characteristics @Tc = 25℃(unless otherwise specified)

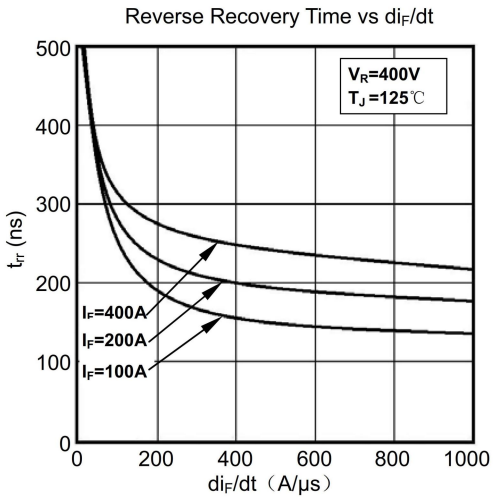
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I_{RM}	Reverse Leakage Current	V_R=400V	-	-	0.5	mA
		V_R=400V,T_J=125℃	-	-	3	mA
V_F	Forward Voltage	I_F=120A	-	1.15	1.60	V
		I_F=120A,T_J=125℃	-	1.2	-	
t_{rr}	Reverse Recovery Time	I_F=1A,V_R=30V,di_F/dt=-120A/μs	-	35	-	ns
T_{RR}	Reverse Recovery Time	I_F =120A,V_R=400V, di/dt = -120A/us T_C=25℃	-	60	-	ns
I_{RRM}	Max. Reverse Recovery Current		-	9	-	A
T_{RR}	Reverse Recovery Time	I_F =120A,V_R=400V, di/dt = -120A/us T_C=125℃		85		ns
I_{RRM}	Max. Reverse Recovery Current			15		A

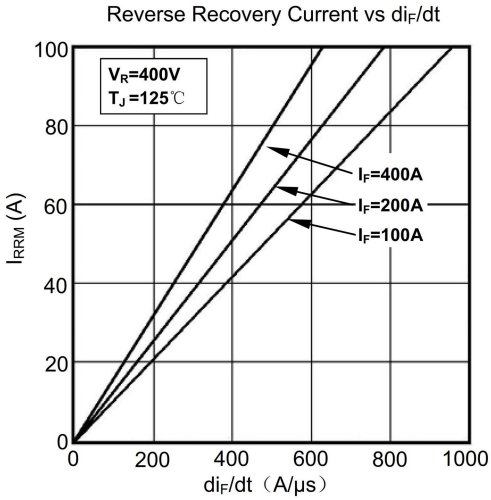
Electrical characteristics(Curves)

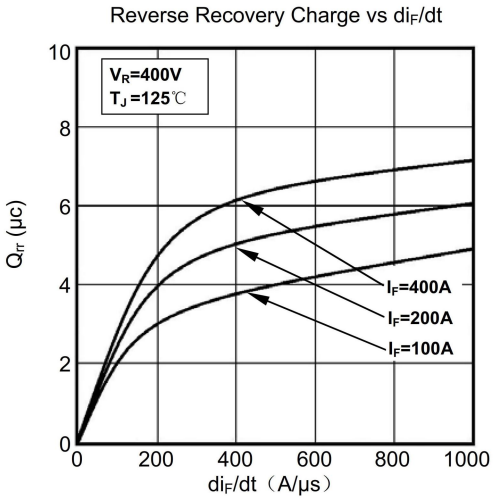












Package Dimension