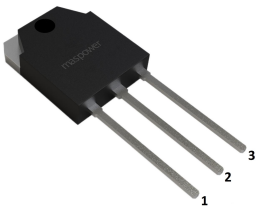
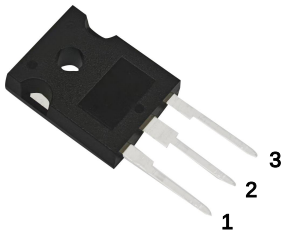
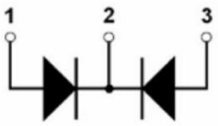
Features

- Low Loss and Soft Recovery
- High Performance Schottky Diode
- Common Cathode
- Very low Vf
- Extremely low switching losses
- Low Irm values
- Improved thermal behaviour
- High reliability circuit operation
- Low voltage peaks for reduced
- protection circuits
- Low noise switching







Applications

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Absolute Maximum Ratings(Tc=25℃)

Parameter	Symbol	Test Conditions		Values	Unit
Repetitive Peak Reverse Voltage	V_{RRM}			200	V
Reverse current,drain current	I_R	V_R=200V	Tc=25°C	900	μA
			Tc=125°C	5	mA
Forward voltage drop (per)	V_F	I_F=30A	Tc=25°C	0.9	V
		I_F=45A		1.1	V
Surge Current	I_{FSM}	Rectangular d=0.5 Tc=125°C		45 x 2	A
Threshold voltage	V_{F0}	For power loss calculation only Tc=125°C		0.52	V
Slope resistance	r_F			6.5	mΩ
Forward surge current	I_{FSM}	T=10ms,(50Hz),sine, V_R=0V		820	A
Power Dissipation	Ptot			275	W
Junction Temperature	T_J			-65~150	℃
Storage Temperature Range	T_{STG}			-65~150	
Thermal Resistance junction to case	$R_{\theta JC}$			0.55	KW

Thermal Resistance case to heatsink	$R_{\theta ch}$		0.25	KW

Electrical Characteristics(T_C=25°C unless otherwise specified)

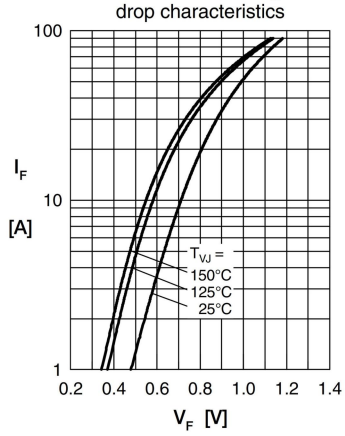
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Junction capacitance	C_J	V_R=24V f=1MHz	-	-	261	pF
Reverse Recovery Time	t_{rr}	IF=1A, V_R=30V diF/dt=-200A/us	-	-	35	ns
Mounting torque	M_D		0.8	-	1.2	Nm
Mounting force with clip	F_C		20		120	N

Order Message

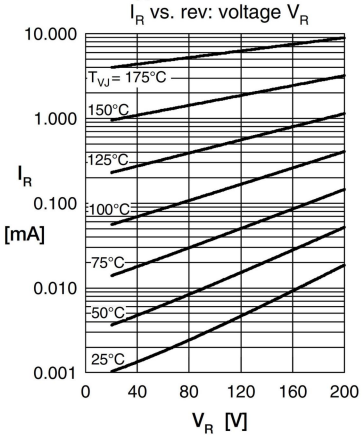
Marking	Package
ESTF90D20XB	TO-3PB
ESTF90D20XU	TO-247

Electrical characteristics(Curves)

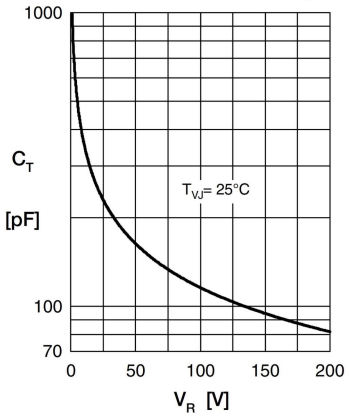
Max. forward voltage drop characteristics



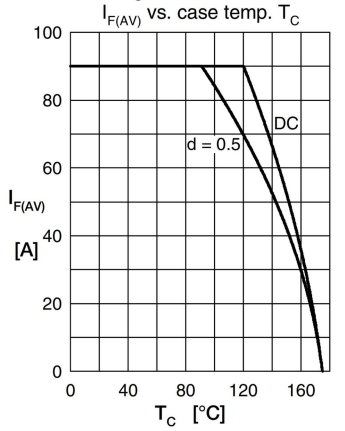
Typ. reverse current I_R vs. rev: voltage V_R



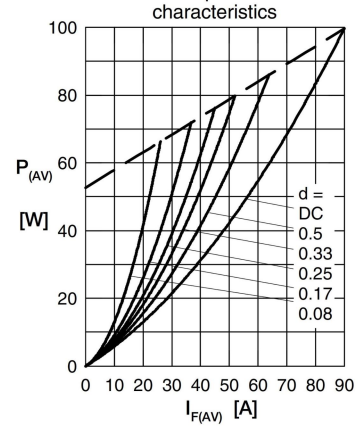
Typ. junction capacitance C_T vs. reverse voltage V_R



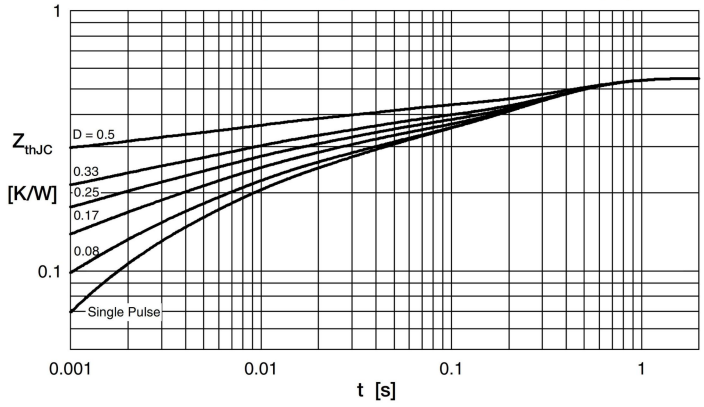
Avg. forward current $I_{F(AV)}$ vs. case temp. T_C



Forward power loss characteristics



Transient thermal impedance junction to case at various duty cycles



Package outline dimension

TO-247

