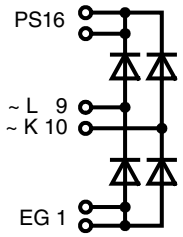
Single Phase Rectifier Bridge

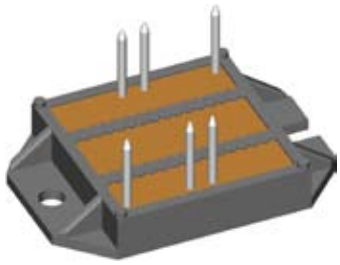
with Fast Recovery Epitaxial Diodes (FRED)

in ECO-PAC 2

I_{dAV} = 100 A
V_{RRM} = 1200 V
t_{rr} = 40 ns

V_{RSM} V	V_{RRM} V	Type
1200	1200	VBE 100-12NO7





Symbol	Conditions			Maximum Ratings	
I_{dAV} ①	T_C = 70°C, module			100	A
I_{dAVM}				100	A
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms	(50 Hz)	500	A
	V_R = 0	t = 8.3 ms	(60 Hz)	525	A
	T_{VJ} = T_{VJM};	t = 10 ms	(50 Hz)	415	A
	V_R = 0	t = 8.3 ms	(60 Hz)	440	A
I^2t	T_{VJ} = 45°C;	t = 10 ms	(50 Hz)	1250	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	1160	A^2s
	T_{VJ} = T_{VJM};	t = 10 ms	(50 Hz)	860	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	820	A^2s
T_{VJ}				-40...+150	°C
T_{VJM}				150	°C
T_{stg}				-40...+125	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min		3000	V~
	I_{ISOL} ≤ 1 mA	t = 1 s		3600	V~
M_d	Mounting torque	(M4)		1.5-2	Nm
Weight	Typ.			24	g

Symbol	Conditions		Characteristic Values	
I_R	V_R = V_{RRM}	T_{VJ} = 25°C	1	mA
		T_{VJ} = T_{VJM}	2.5	mA
V_F	I_F = 60 A	T_{VJ} = 25°C	2.7	V
V_{T0}	For power-loss calculations only		1.07	V
r_t			8.2	mΩ
R_{thJC}	per diode; DC current		0.8	K/W
R_{thCH}	per diode; DC current		0.2	K/W
I_{RM}	I_F = 130 A; -di_F/dt - 100 A/µs		typ. 7	A
	V_R = 100 V; T_{VJ} = 100°C		max. 1.5	A
t_{rr}	I_F = 1 A; -di_F/dt - 300 A/µs		typ. 40	ns
	V_R = 30 V; T_{VJ} = 25°C			
d_S	Creeping distance on surface		11.2	mm
d_A	Creepage distance in air		9.7	mm
a	Max. allowable acceleration		50	m/s^2

Data according to IEC 60747 and refer to a single diode unless otherwise stated.
① for resistive load a bridge output.

Features

- Package with DCB ceramic base plate in low profile
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering

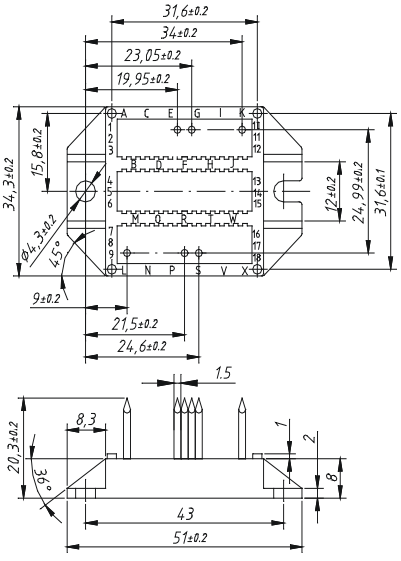
Applications

- Supplies for DC power equipment
- Input and output rectifiers for high frequency
- Battery DC power supplies
- Field supply for DC motors

Advantages

- Space and weight savings
- Improved temperature and power cycling capability
- Small and light weight
- Low noise switching

Dimensions in mm (1 mm = 0.0394“)



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IXYS reserves the right to change limits, test conditions and dimensions.

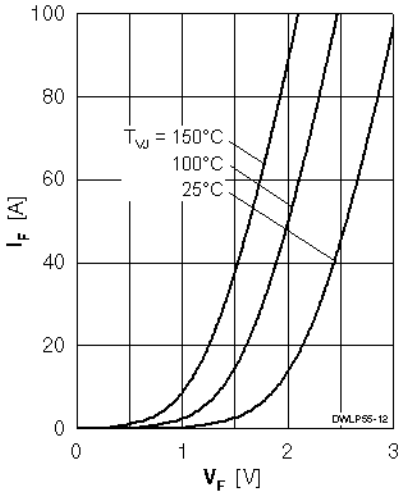

Fig. 1 Forward current I_F versus V_F

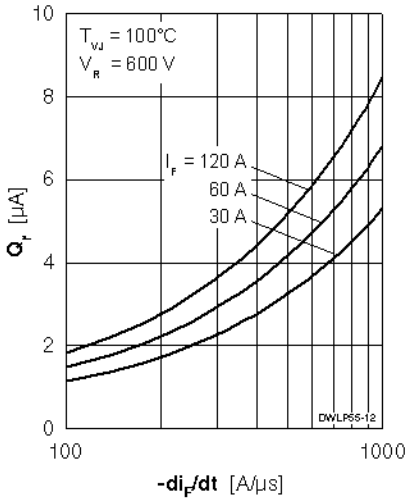

Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

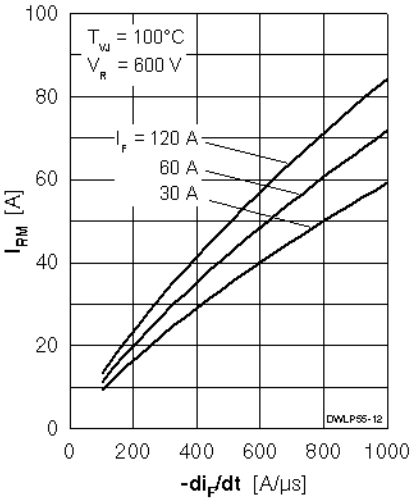

Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

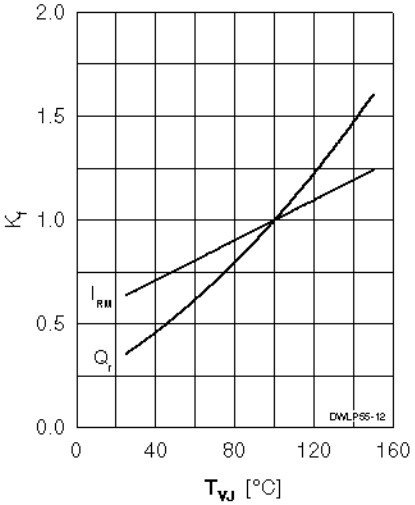

Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

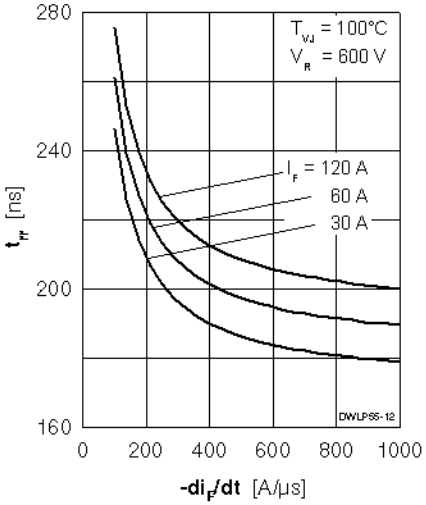

Fig. 5 Recovery time trr versus $-di_F/dt$

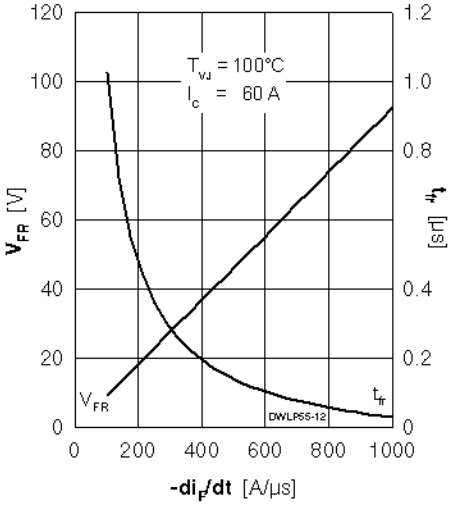

Fig. 6 Peak forward voltage V_{FR} and tfr versus di_F/dt

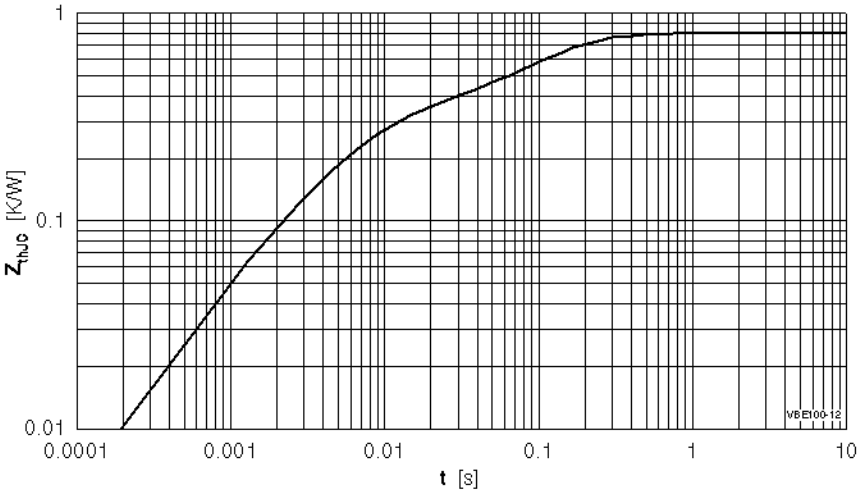

Fig. 7 Typical transient thermal resistance junction to case