IXYS

VBE 100-06NO7

Single Phase Rectifier Bridge

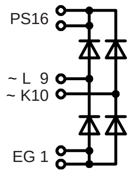
with Fast Recovery Epitaxial Diodes (FRED)

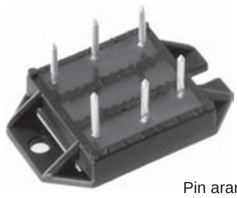
in ECO-PAC 2

I_{dAV} = 100 A
V_{RRM} = 600 V
t_{rr} = 35 ns

Preliminary data sheet

V_{RSM} V	V_{RRM} V	Typ
600	600	VBE 100-06NO7





Pin arangement see outlines

Symbol	Conditions		Maximum Ratings	
I_{dAV} ①	T_C = 85°C, module		100	A
I_{dAVM}			100	A
I_{FSM}	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	600	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	640	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	520	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	555	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	1800	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	1720	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	1350	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	1295	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)		1.5-2/14-18	Nm/lb.in.
Weight	typ.		24	g

Symbol	Conditions		Characteristic Values typ.	max.	
I_R	$V_R = V_{RRM}$	T_{VJ} = 25°C		0.1	mA
	$V_R = V_{RRM}$	$T_{VJ} = T_{VJM}$		2.5	mA
V_F	I_F = 60 A	T_{VJ} = 25°C		2.04	V
V_{T0}	for power-loss calculations only			1.09	V
r_T				4.3	mΩ
R_{thJC}	per diode; DC current			0.8	K/W
R_{thCH}	per diode, DC current, typ.			0.2	K/W
I_{RM}	I_F = 130 A, -diF/dt = 100 A/µs V_R = 100 V, T_{VJ} = 100°C			6.8	A
t_{rr}	I_F = 1 A; -di/dt = 300 A/µs; V_R = 30 V, T_{VJ} = 25°C		35		ns
a	Max. allowable acceleration		50		m/s^2
d_S	creeping distance on surface (pin to heatsisnk)		11.2		mm
d_A	strike distance in air (pin to heatsisnk)		9.7		mm

Data according to IEC 60747 refer to a single diode unless otherwise stated
① for resistive load at 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

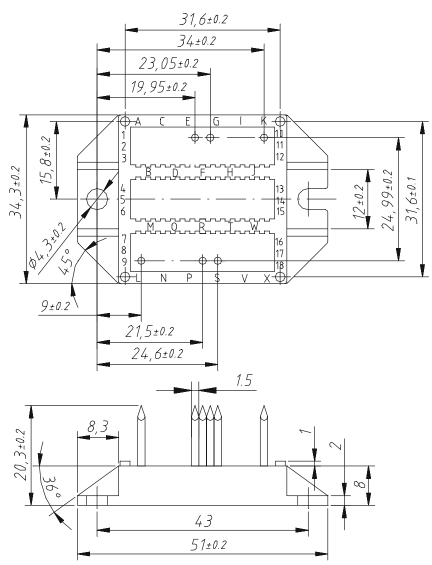
Applications

- 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.

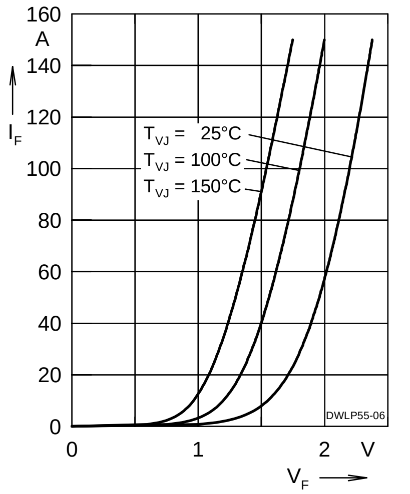

Fig. 1 Forward current I_F versus V_F

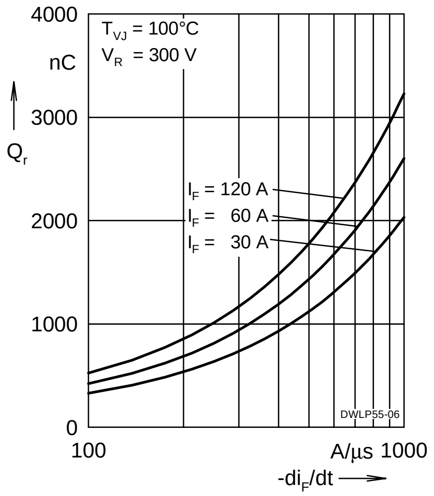

Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

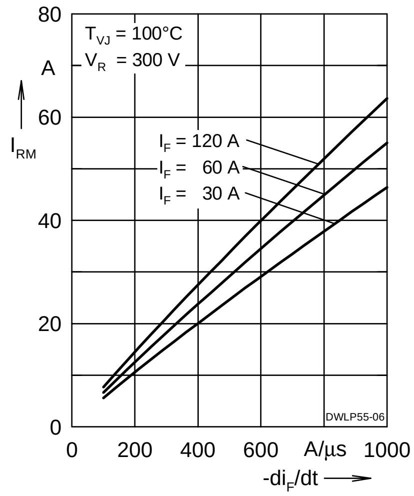

Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

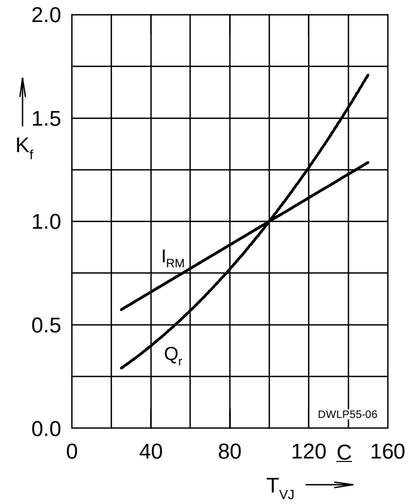

Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

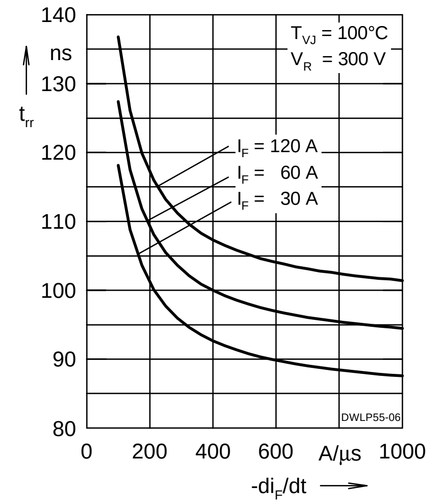

Fig. 5 Recovery time t_{rr} versus $-di_F/dt$

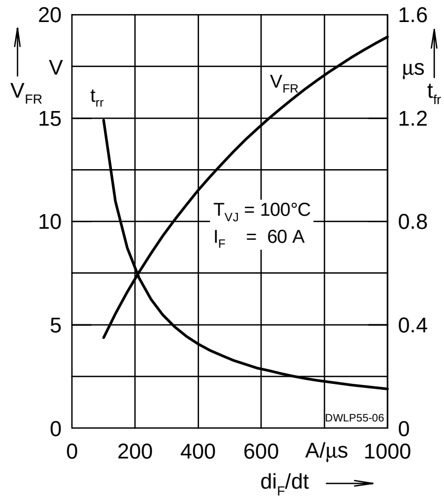

Fig. 6 Peak forward voltage V_{FR} and t_{fr} versus di_F/dt

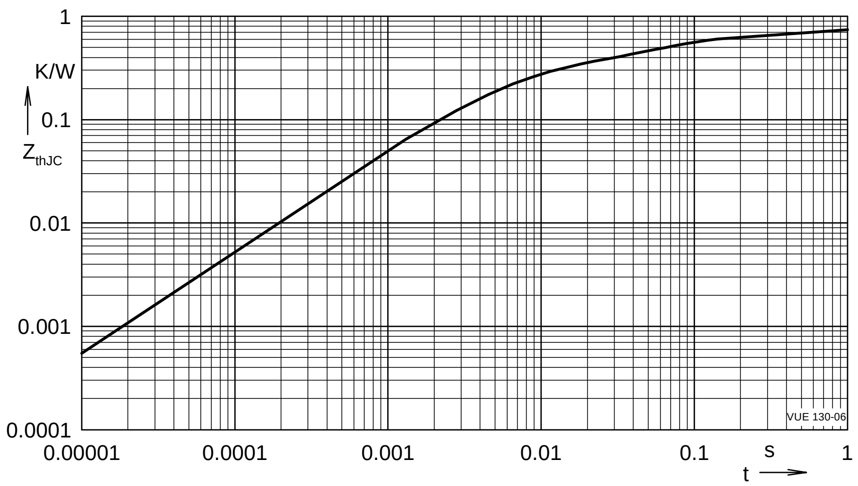

Fig. 7 Typical transient thermal resistance junction to case

NOTE: Fig. 2 to Fig. 6 shows typical values

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