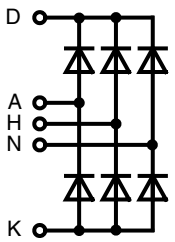
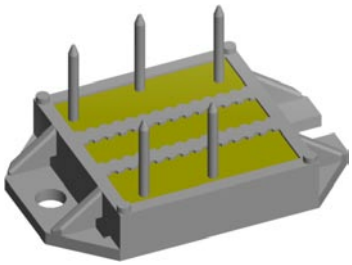
ECO-PAC™
Three Phase Rectifier Bridge
with Fast Recovery Epitaxial Diodes (FRED)

I_{dAV} = 74 A
V_{RRM} = 1200 V
t_{rr} = 40 ns

V_{RSM} V	V_{RRM} V	Type
1200	1200	VUE 75-12NO7





Symbol	Conditions			Maximum Ratings	
I_{dAV} ①	T_C = 85°C, module			74	A
I_{dAVM}				90	A
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms	(50 Hz)	200	A
	V_R = 0	t = 8.3 ms	(60 Hz)	220	A
	T_{VJ} = 125°C;	t = 10 ms	(50 Hz)	170	A
	V_R = 0	t = 8.3 ms	(60 Hz)	190	A
I^2t	T_{VJ} = 45°C;	t = 10 ms	(50 Hz)	200	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	205	A^2s
	T_{VJ} = 125°C;	t = 10 ms	(50 Hz)	145	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	150	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~
	$I_{ISOL} \leq$ 1 mA	t = 1 s		3600	V~
M_d	Mounting torque	(M4)		1.5 - 2	Nm
Weight	typ.			19	g

Symbol	Conditions		Characteristic Values (T_{VJ} = 25°C, unless otherwise specified) typ.	max.	
I_R	$V_R = V_{RRM}$	T_{VJ} = 25°C		0.25	mA
	$V_R = V_{RRM}$	$T_{VJ} = T_{VJM}$		1.0	mA
V_F	I_F = 30 A	T_{VJ} = 25°C		2.71	V
V_{T0}	For power-loss calculations only			1.31	V
r_t				15	mΩ
R_{thJC}	per diode; DC current			0.9	K/W
	per diode; DC current, typ.			0.3	K/W
I_{RM}	I_F = 50 A; $-di_F/dt$ = 100 A/µs		6	11.4	A
	V_R = 100 V; L = 0.05 mH; T_{VJ} = 100°C				
t_{rr}	I_F = 1 A; -di/dt = 200 A/µs; V_R = 30 V; T_{VJ} = 25°C		40	tbd	ns
d_S	Creeping distance on surface		50		m/s^2
d_A	Creepage distance in air		11.2		mm
a	Max. allowable acceleration		9.7		mm

Data according to IEC 60747 and 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

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

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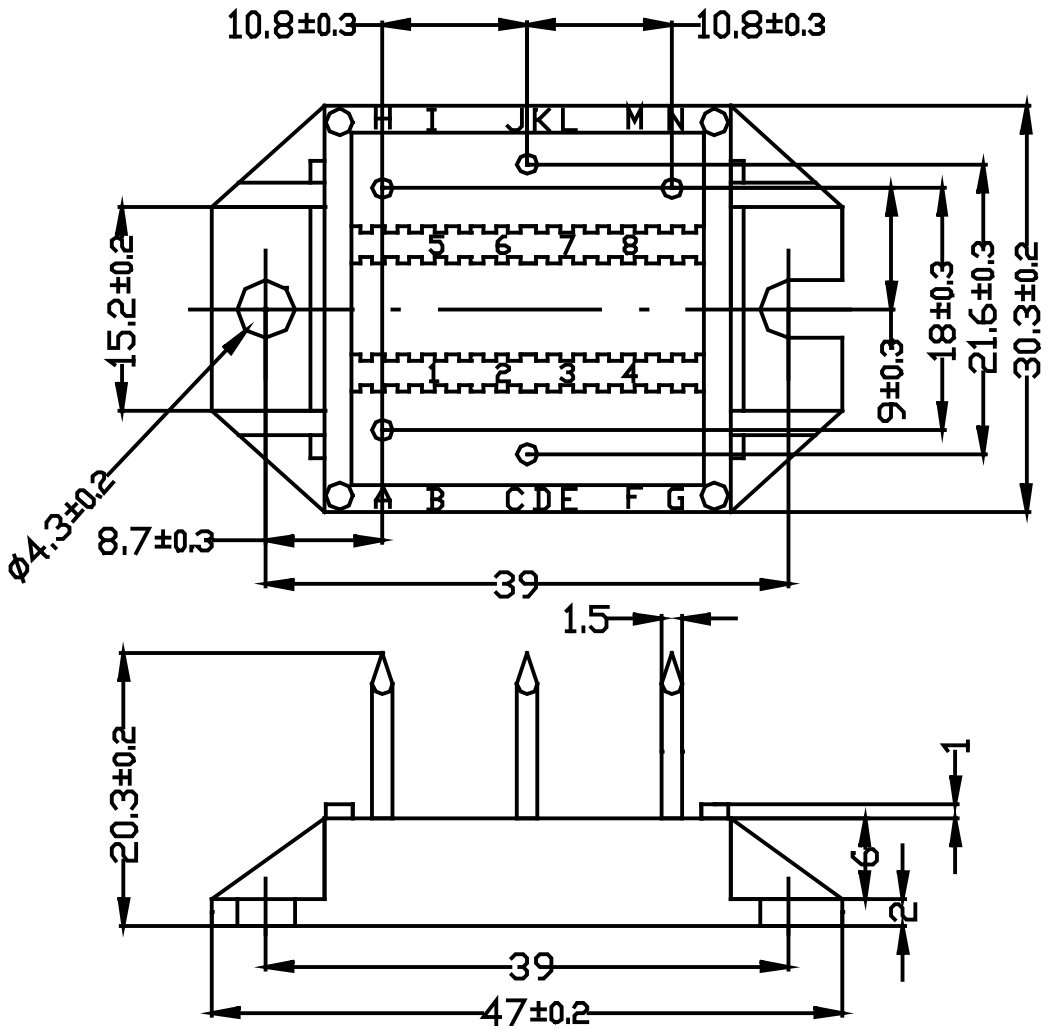
Dimensions in mm (1 mm = 0.0394“)



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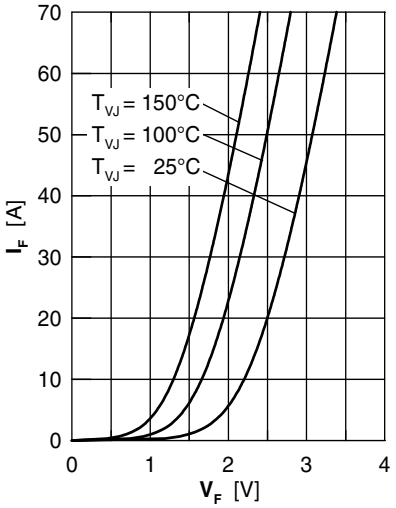

Fig. 1 Forward current I_F vs. V_F

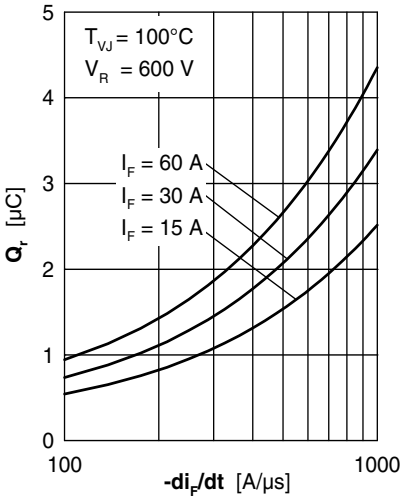

Fig. 2 Reverse recovery charge Qr versus -di_F/dt

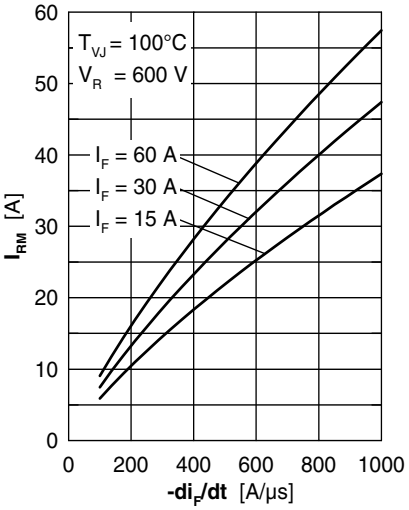

Fig. 3 Peak reverse current I_{RM} versus -di_F/dt

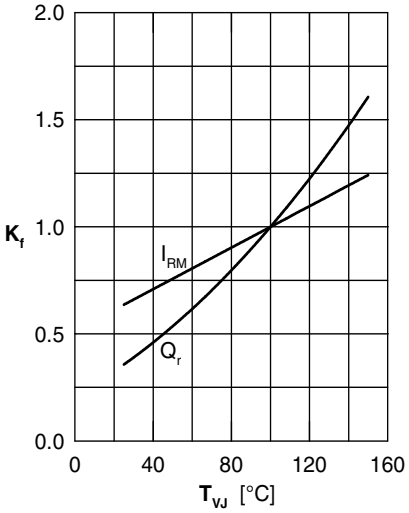

Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

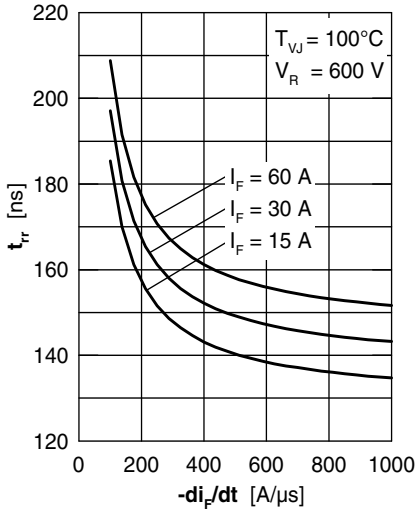

Fig. 5 Recovery time t_{rr} vs. -di_F/dt

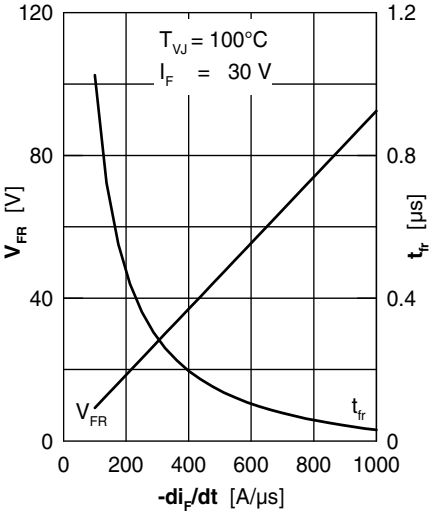

Fig. 6 Peak forward voltage V_{FR} and t_{fr} versus di_F/dt

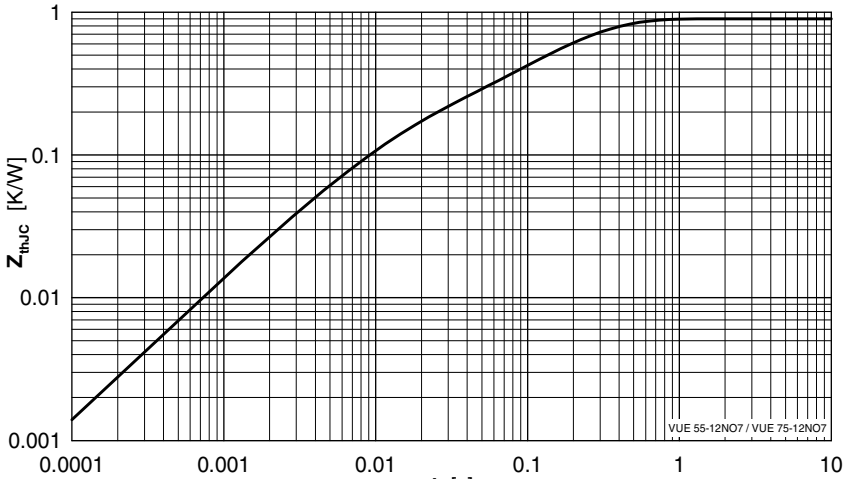

Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.3012	0.0052
2	0.116	0.0003
3	0.0241	0.0004
4	0.4586	0.0092

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