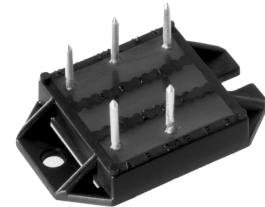
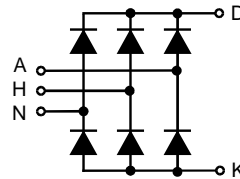


ECO-PAC™ Three Phase Rectifier Bridge with Fast Recovery Epitaxial Diodes (FRED)

I_{dAV} = 56 A
 V_{RRM} = 600 V
 t_{rr} = 35 ns

V_{RSM}	V_{RRM}	Typ
V	V	
600	600	VUE 35-06NO7



Symbol	Conditions	Maximum Ratings	
I_{dAV} ①	$T_c = 85^\circ\text{C}$, module	56	A
I_{dAVM}		90	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10$ ms (50 Hz), sine	110 A
		$t = 8.3$ ms (60 Hz), sine	120 A
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10$ ms (50 Hz), sine	95 A
		$t = 8.3$ ms (60 Hz), sine	105 A
I^2t	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10$ ms (50 Hz), sine	60 A ² s
		$t = 8.3$ ms (60 Hz), sine	60 A ² s
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10$ ms (50 Hz), sine	45 A ² s
		$t = 8.3$ ms (60 Hz), sine	45 A ² s
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)	1.5-2/14-18	Nm/lb.in.
Weight	typ.	19	g

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

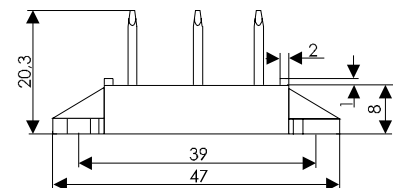
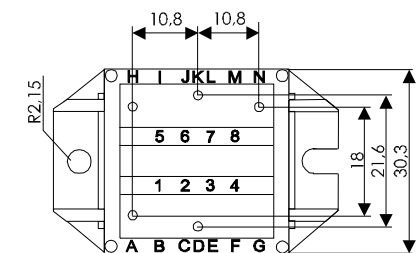
- Space and weight savings
- Improved temperature and power cycling capability
- Small and light weight
- Low noise switching

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$		0.1 mA
		$V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$	0.5 mA
V_F	$I_F = 15$ A $T_{VJ} = 25^\circ\text{C}$		2.01 V
V_{T0}	for power-loss calculations only		1.13 V
r_T			13 mΩ
R_{thJC}	per diode; DC current		1.6 K/W
R_{thCH}	per diode, DC current, typ.		0.3 K/W
I_{RM}	$I_F = 25$ A, $-diF/dt = 100$ A/μs $V_R = 100$ V, $L = 0.05$ mH, $T_{VJ} = 100^\circ\text{C}$	4	4.9 A
		$I_F = 1$ A; $-di/dt = 100$ A/μs; $V_R = 30$ V, $T_{VJ} = 25^\circ\text{C}$	35
t_{rr}			
a	Max. allowable acceleration	50	m/s ²
d_s	creeping distance on surface	11.2	mm
d_A	creepage distance in air	9.7	mm

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

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

Dimensions in mm (1 mm = 0.0394")



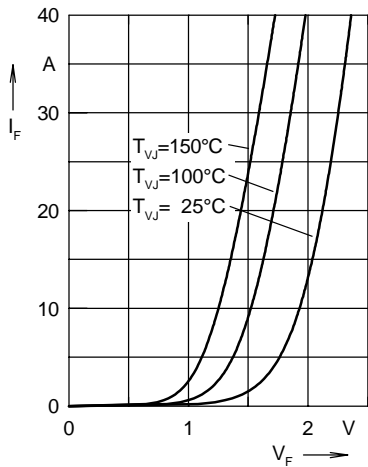


Fig. 1 Forward current I_F versus V_F

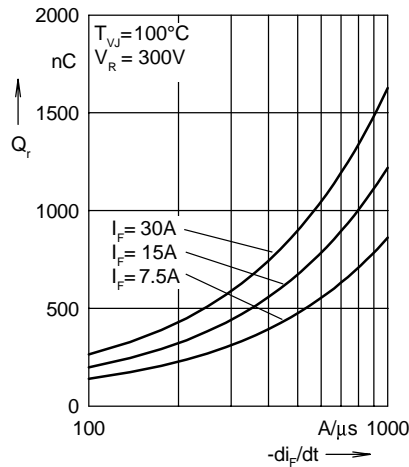


Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

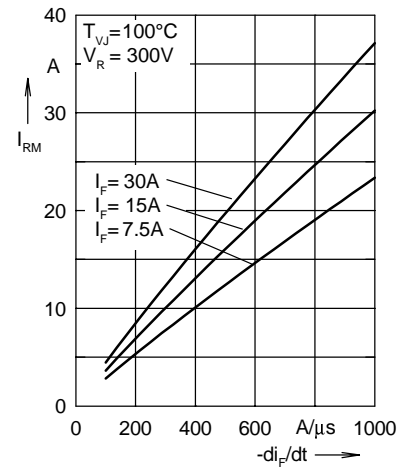


Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

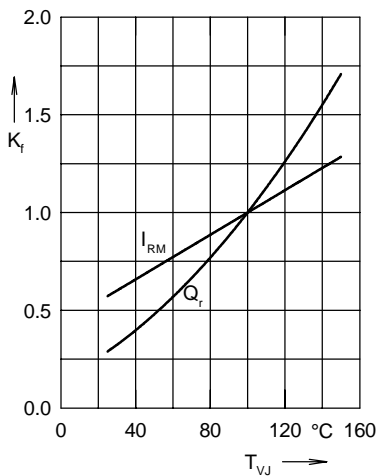


Fig. 4 Dynamic parameters Q_r , I_{RM} versus T_{VJ}

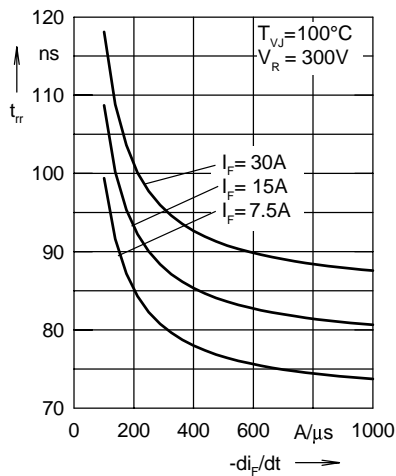


Fig. 5 Recovery time t_{rr} versus $-di_F/dt$

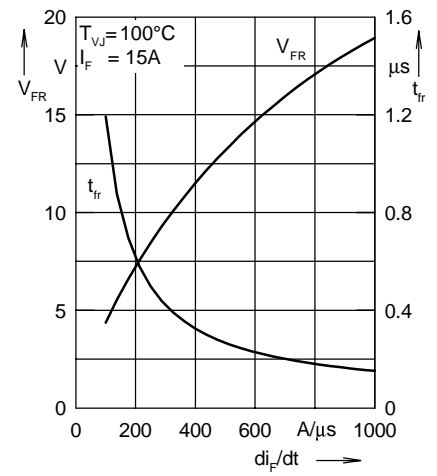


Fig. 6 Peak forward voltage V_{FR} and t_{rr} versus di_F/dt

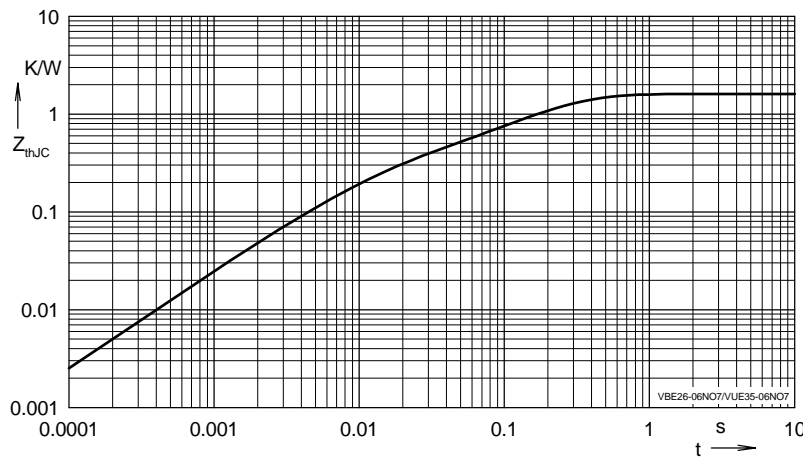


Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.5464	0.0052
2	0.2104	0.0003
3	0.0432	0.0004
4	0.8	0.0092

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

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