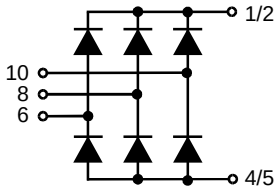
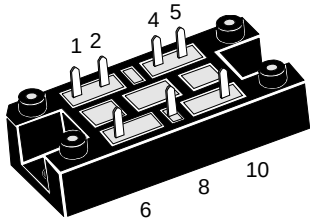
Three Phase Rectifier Bridge

V_{RRM} = 1200 V
I_{dAV} = 50 A
t_{rr} = 40 ns

V_{RSM} V	V_{RRM} V	Type
1200	1200	VUE 50-12NO1





Symbol	Test Conditions			Maximum Ratings	
I_{dAV}	T_K = 85°C, module			50	A
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms	(50 Hz), sine	200	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	210	A
	$T_{VJ} = T_{VJM}$	t = 10 ms	(50 Hz), sine	185	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	195	A
I^2t	T_{VJ} = 45°C	t = 10 ms	(50 Hz), sine	200	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	180	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms	(50 Hz), sine	170	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	160	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	(M5)		2 - 2.5	Nm
		(10-32UNF)		18-22	lb.in.
Weight	typ.			35	g

Symbol	Test Conditions		Characteristic Values typ.	max	
I_R	$V_R = V_{RRM}$	T_{VJ} = 25°C		0.75	mA
	V_R = 0.8 V_{RRM}	T_{VJ} = 125°C	4	7	mA
V_F	I_F = 30 A;	T_{VJ} = 25°C		2.55	V
V_{T0}	For power-loss calculations only			1.65	V
r_T				18.2	mΩ
R_{thJS}	per diode,	120° rect.		1.5	K/W
	per module,	120° rect.		0.25	K/W
I_{RM}	I_F = 30 A, -di_F/dt = 240 A/µs		16	18	A
	V_R = 540 V, L ≤ 0.05 µH, T_{VJ} = 100°C				
t_{rr}	I_F = 1 A; -di/dt = 100 A/µs; V_R = 30 V, T_{VJ} = 25°C		40	60	ns
d_S	Creeping distance on surface			12.7	mm
d_A	Creepage distance in air			9.4	mm
a	Max. allowable acceleration			50	m/s^2

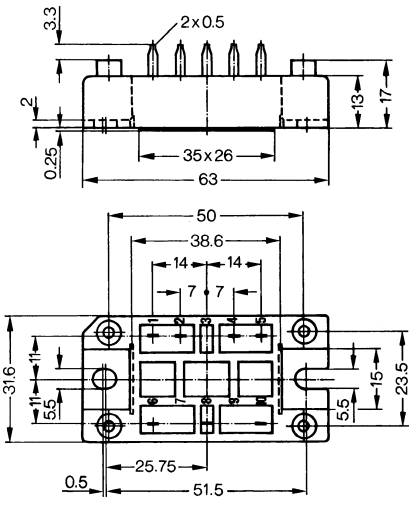
Data according to IEC 60747 and refer to a single diode unless otherwise stated.
IXYS reserves the right to change limits, test conditions and dimensions.

Features
- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Leads suitable for PC board soldering
- Creeping and creepage-distance fulfils UL 508/CSA 22.2NO14 and VDE 0160 requirements
- Epoxy meet UL94V-O
- UL registered E72873

Applications
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Output filter for PWM inverter

Advantages
- Reduced EMI/RFI
- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

Dimensions in mm (1 mm = 0.0394")



Use output terminals in parallel connections

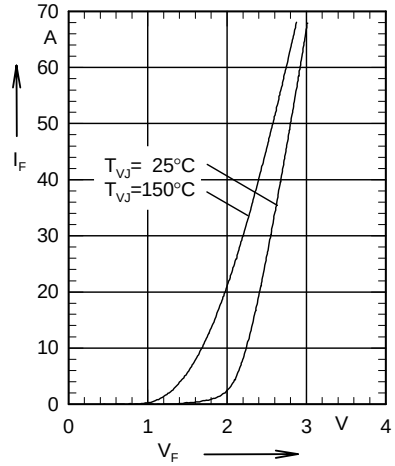


Fig. 1 Forward current versus voltage drop per diode.

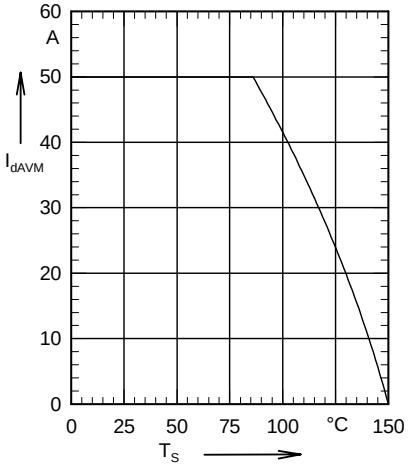


Fig. 2 Maximum forward current at heatsink temperature T_S.

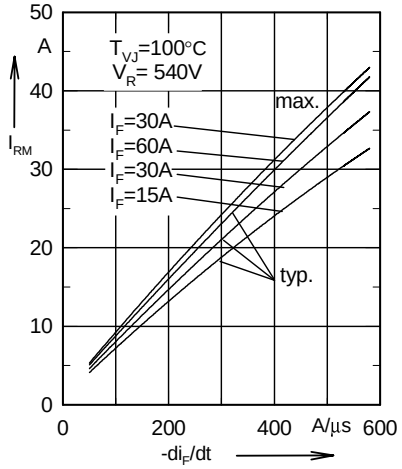


Fig. 3 Typical peak reverse current versus $-di_F/dt$.

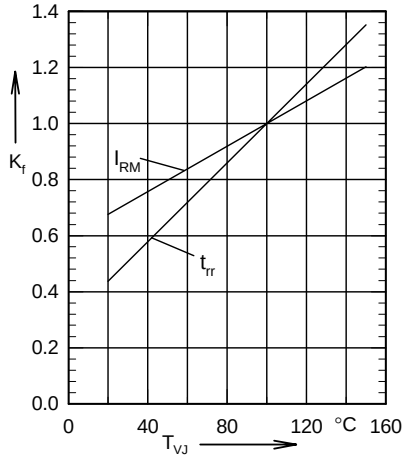


Fig. 4 Dynamic parameters versus junction temperature.

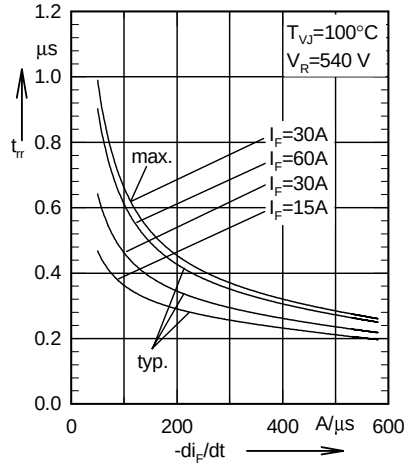


Fig. 5 Typical recovery time versus $-di_F/dt$.

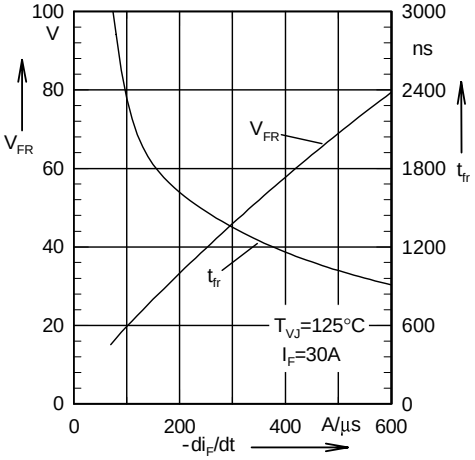


Fig. 6 Typical peak forward voltage and forward recovery time versus $-di_F/dt$.

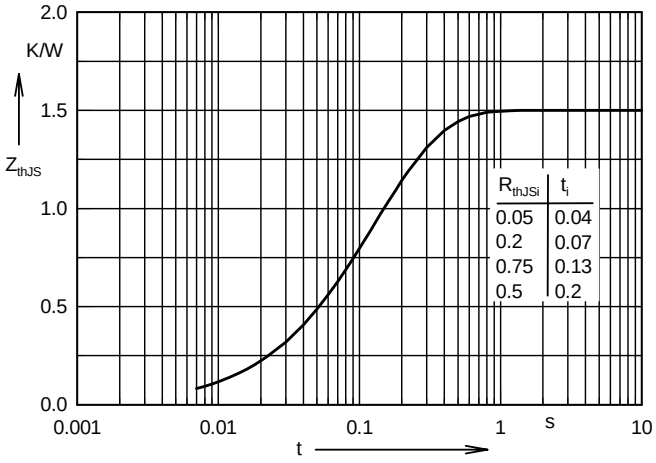


Fig. 7 Transient thermal impedance junction to heatsink

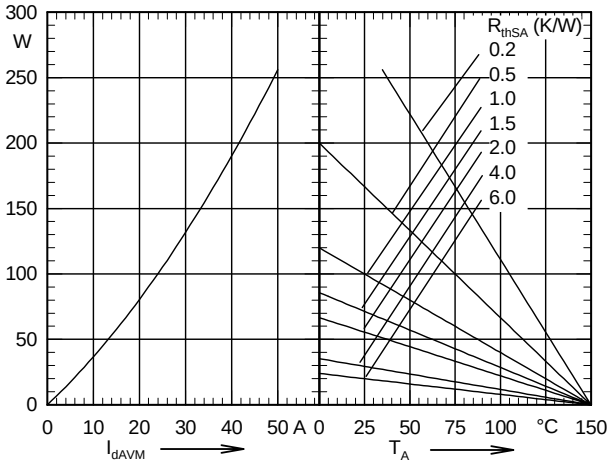


Fig. 8 Power dissipation versus direct output current and ambient temperature

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