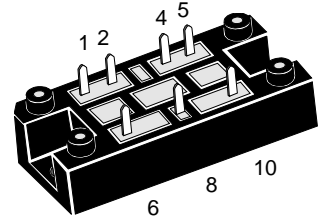
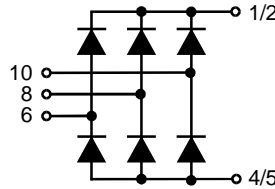


Three Phase Rectifier Bridge

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

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



Symbol	Test Conditions	Maximum Ratings
I_{dAV}	$T_K = 85^\circ\text{C}$, module	50 A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0$	t = 10 ms (50 Hz), sine: 200 A
		t = 8.3 ms (60 Hz), sine: 210 A
I^2t	$T_{VJ} = T_{VJM}$; $V_R = 0$	t = 10 ms (50 Hz), sine: 185 A
		t = 8.3 ms (60 Hz), sine: 195 A
I^2t	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0$	t = 10 ms (50 Hz), sine: 200 A ² s
		t = 8.3 ms (60 Hz), sine: 180 A ² s
T_{VJ}	$T_{VJ} = T_{VJM}$; $V_R = 0$	t = 10 ms (50 Hz), sine: 170 A ² s
		t = 8.3 ms (60 Hz), sine: 160 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~
	$I_{ISOL} \leq 1\text{ mA}$	t = 1 s: 3600 V~
M_d	Mounting torque	(M5): 2 - 2.5 Nm
		(10-32UNF): 18-22 lb.in.
Weight	typ.	35 g

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

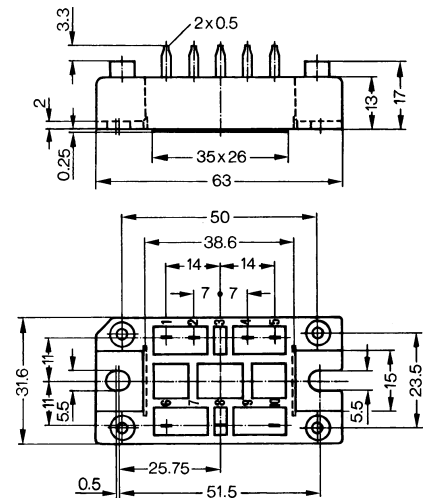
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Output filter for PWM inverter

Advantages

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

Symbol	Test Conditions	Characteristic Values	
		typ.	max
I_R	$V_R = V_{RRM}$; $V_R = 0.8 V_{RRM}$	$T_{VJ} = 25^\circ\text{C}$: 0.75 mA	
		$T_{VJ} = 125^\circ\text{C}$: 7 mA	
V_F	$I_F = 30\text{ A}$; $T_{VJ} = 25^\circ\text{C}$	2.55 V	
V_{T0}	For power-loss calculations only	1.65 V	
r_T		18.2 mΩ	
R_{thJS}	per diode, 120° rect. per module, 120° rect.	1.5 K/W	
		0.25 K/W	
I_{RM}	$I_F = 30\text{ A}$, $-di_F/dt = 240\text{ A}/\mu\text{s}$ $V_R = 540\text{ V}$, $L \leq 0.05\ \mu\text{H}$, $T_{VJ} = 100^\circ\text{C}$	16 A	
t_{rr}	$I_F = 1\text{ A}$; $-di/dt = 100\text{ A}/\mu\text{s}$; $V_R = 30\text{ V}$, $T_{VJ} = 25^\circ\text{C}$	40 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	

Dimensions in mm (1 mm = 0.0394")



Use output terminals in parallel connections

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.

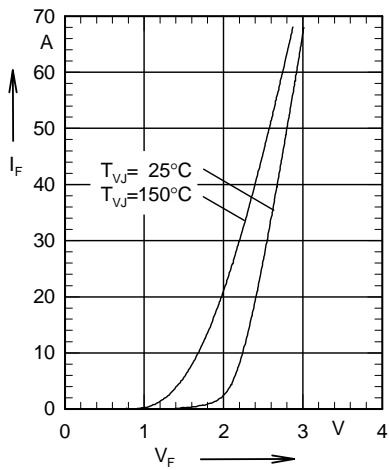


Fig. 1 Forward current versus voltage drop per diode.

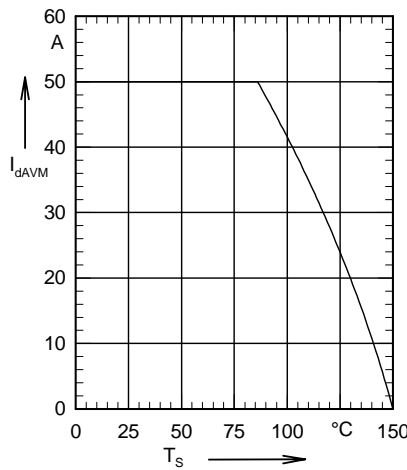


Fig. 2 Maximum forward current at heatsink temperature T_S .

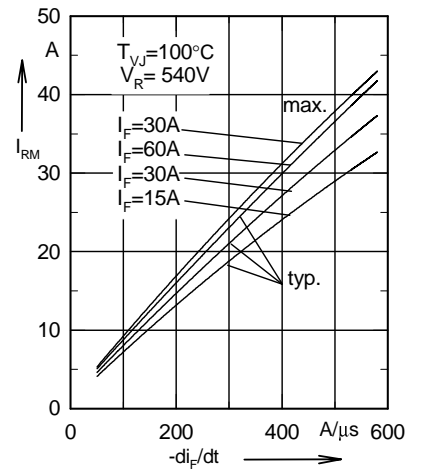


Fig. 3 Typical peak reverse current versus $-di_F/dt$.

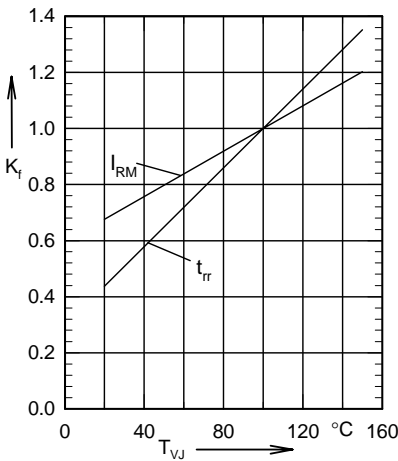


Fig. 4 Dynamic parameters versus junction temperature.

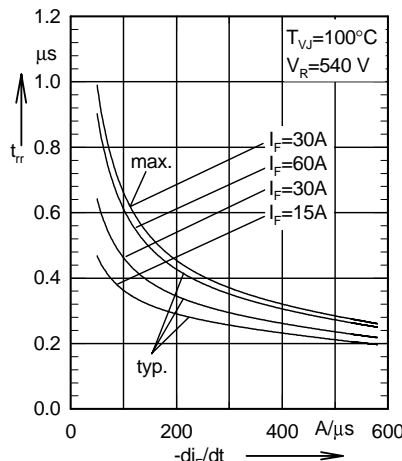


Fig. 5 Typical recovery time versus $-di_F/dt$.

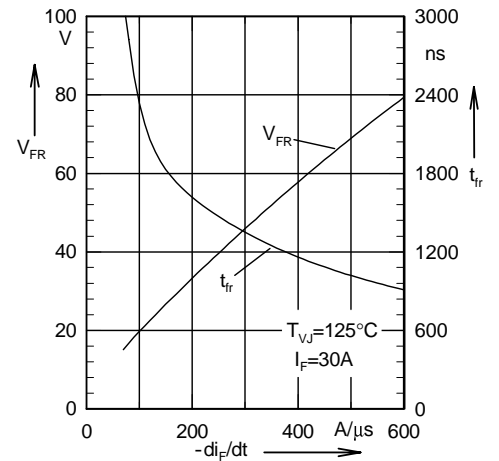


Fig. 6 Typical peak forward voltage and forward recovery time versus $-di_F/dt$.

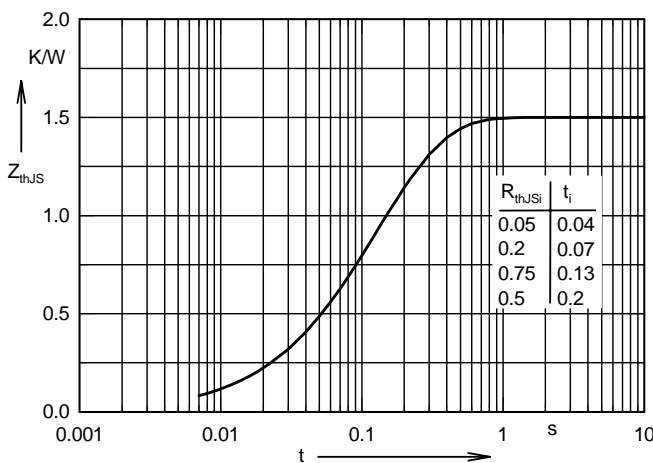


Fig. 7 Transient thermal impedance junction to heatsink

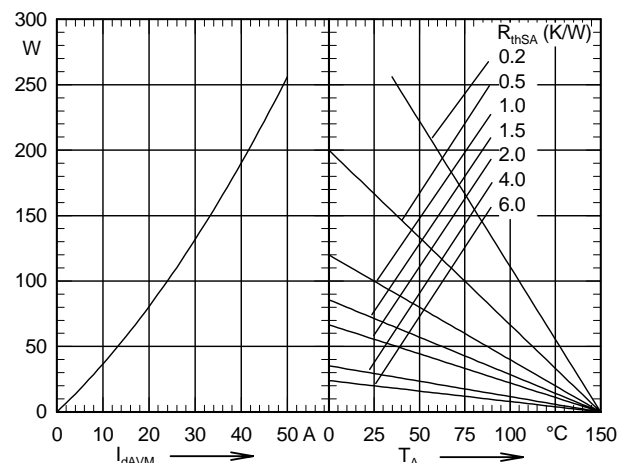


Fig. 8 Power dissipation versus direct output current and ambient temperature