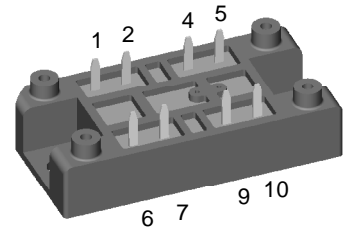
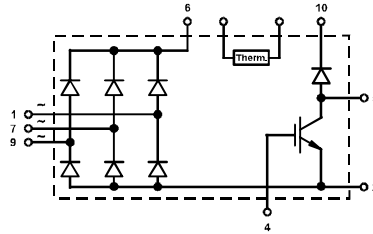


Three Phase Rectifier Bridge with IGBT and Fast Recovery Diode for Braking System

V_{RRM} = 1200-1600 V
I_{dAVM} = 70 A

V _{RRM} V	Type
1200	VUB 71-12 NO1
1600	VUB 71-16 NO1



Symbol	Test Conditions	Maximum Ratings		
V _{RRM} I _{dAV} I _{dAVM}	T _H = 110°C, sinusoidal 120° limited by leads	1200 / 1600	V	
		59	A	
		70	A	
I _{FSM}	T _{VJ} = 45°C, t = 10 ms, V _R = 0 V	530	A	
	T _{VJ} = 150°C, t = 10 ms, V _R = 0 V	475	A	
I ² t	T _{VJ} = 45°C, t = 10 ms, V _R = 0 V	1400	A	
	T _{VJ} = 150°C, t = 10 ms, V _R = 0 V	1130	A	
P _{tot}	T _H = 25°C per diode	90	W	
V _{CES} V _{GE}	T _{VJ} = 25°C to 150°C Continuous	1200	V	
		± 20	V	
I _{C25}	T _H = 25°C, DC	43	A	
I _{C80}	T _H = 80°C, DC	29	A	
I _{CM}	t _p = Pulse width limited by T _{VJM}	90	A	
P _{tot}	T _H = 80°C	160	W	
V _{RRM} I _{FAV} I _{FRMS} I _{FRM}	T _H = 80°C, rectangular d = 0.5	1200	V	
		9	A	
		14	A	
		90	A	
I _{FSM}	T _{VJ} = 45°C, t = 10 ms	75	A	
	T _{VJ} = 150°C, t = 10 ms	60	A	
P _{tot}	T _H = 25°C	40	W	
T _{VJ} T _{VJM} T _{stg}		-40...+150 150 -40...+125	°C °C °C	
V _{ISOL}	50/60 Hz	t = 1 min	3000	V~
	I _{ISOL} ≤ 1 mA	t = 1 s	3600	V~
M _d	Mounting torque	(M5) (10-32 unf)	2-2.5 18-22	Nm lb.in.
Weight	typ.		35	g

Features

- Soldering connections for PCB mounting
- Isolation voltage 3600 V~
- Ultrafast freewheeling diode
- Convenient package outline
- UL registered E 72873
- Thermistor

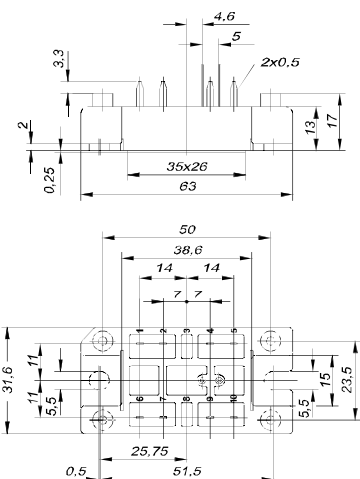
Applications

- Drive Inverters with brake system

Advantages

- 2 functions in one package
- No external isolation necessary
- Easy to mount with two screws
- Suitable for wave soldering
- High temperature and power cycling capability

Dimensions in mm (1 mm = 0.0394")



Data according to IEC 60747
IXYS reserves the right to change limits, test conditions and dimensions.

Symbol	Test Conditions	Characteristic Values ($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)		
		min.	typ.	max.
Rectifier Diodes	I_R	$V_R = V_{RRM'}$ $T_{VJ} = 25^{\circ}\text{C}$ $V_R = V_{RRM'}$ $T_{VJ} = 150^{\circ}\text{C}$		0.1 mA 3 mA
	V_F	$I_F = 25\text{ A}$, $T_{VJ} = 25^{\circ}\text{C}$		1.3 V
	V_{T0} r_T	For power-loss calculations only $T_{VJ} = 150^{\circ}\text{C}$		0.85 V 8.5 m Ω
	R_{thJH}	per diode		1.42 K/W
	$V_{BR(CES)}$ $V_{GE(th)}$	$V_{GS} = 0\text{ V}$, $I_C = 3\text{ mA}$ $I_C = 10\text{ mA}$	1200 5	V 8 V
I_{GES}	$V_{GE} = \pm 20\text{ V}$		500 nA	
I_{CES}	$T_{VJ} = 25^{\circ}\text{C}$, $V_{CE} = V_{CES}$ $T_{VJ} = 125^{\circ}\text{C}$, $V_{CE} = 0.8 V_{CES}$		700 μA 1.5 mA	
V_{CESat}	$V_{GE} = 15\text{ V}$, $I_C = 25\text{ A}$		2.9 V	
IGBT	t_{SC} (SCSOA)	$V_{GE} = 15\text{ V}$, $V_{CE} = 600\text{ V}$, $T_{VJ} = 125^{\circ}\text{C}$, $R_G = 22\ \Omega$, non repetitive		10 μs
	RBSOA	$V_{GE} = 15\text{ V}$, $V_{CE} = 800\text{ V}$, $T_{VJ} = 125^{\circ}\text{C}$, $R_G = 22\ \Omega$, Clamped Inductive load, $L = 100\ \mu\text{H}$		50 A
	C_{ies}	$V_{CE} = 25\text{ V}$, $f = 1\text{ MHz}$, $V_{GE} = 0\text{ V}$	4.5	nF
	$t_{d(on)}$ $t_{d(off)}$ t_{fi} E_{on} E_{off}	$V_{CE} = 600\text{ V}$, $I_C = 25\text{ A}$ $V_{GE} = 15\text{ V}$, $R_G = 22\ \Omega$ Inductive load; $L = 100\ \mu\text{H}$ $T_{VJ} = 125^{\circ}\text{C}$	300 350 1600 6 8	ns ns ns mJ mJ
	R_{thJH}			0.8 K/W
Fast Recovery Diode	I_R	$V_R = V_{RRM'}$ $T_{VJ} = 25^{\circ}\text{C}$ $V_R = 800\text{ V}$, $T_{VJ} = 150^{\circ}\text{C}$	4	0.2 mA 6 mA
	V_F	$I_F = 12\text{ A}$, $T_{VJ} = 25^{\circ}\text{C}$		2.7 V
	V_{T0} r_T	For power-loss calculations only $T_{VJ} = 150^{\circ}\text{C}$		1.65 V 46 m Ω
	I_{RM}	$I_F = 25\text{ A}$, $-di_F/dt = 100\text{ A}/\mu\text{s}$ $V_R = 100\text{ V}$	6.5	7 A
	t_{rr}	$I_F = 1\text{ A}$, $-di_F/dt = 100\text{ A}/\mu\text{s}$ $V_R = 30\text{ V}$	50	70 ns
R_{thJH}			3.12 K/W	
R_{25}	NTC Siemens Typ S 891/2,2k/+9		2,2 k Ω	
d_S d_A a	Module Creep distance on surface Strike distance in air Maximum allowable acceleration		12.7 mm 9.4 mm 50 m/s ²	