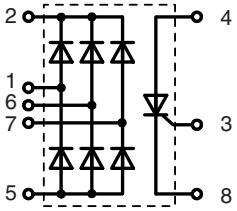
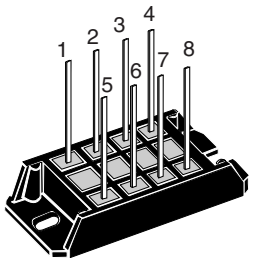
Three Phase Rectifier Bridge

with Fast Diodes and "Softstart" Thyristor

I_{dAVM} = 28 A
I_{TAVM} = 26 A
V_{RRM} = 1200-1600 V

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
1300	1200	VUC 25-12go2
1500	1400	VUC 25-14go2
1700	1600	VUC 25-16go2





Symbol	Conditions		Maximum Ratings Diode	Thyristor	
I_{dAV}	T_K = 85°C; module		25	-	A
I_{dAVM}	module		28	-	A
I_{TAVM}	T_K = 85°C; (DC)		-	26	A
I_{FSM}, I_{TSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	300	330	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	330	370	A
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	270	300	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	300	330	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	450	545	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	460	575	A^2s
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	365	450	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	380	460	A^2s
$(di/dt)_{cr}$	T_{VJ} = T_{VJM}	repetitive, I_T = 50 A		150	A/µs
	f =400 Hz, t_p =200 µs				
	V_D = 2/3 V_{DRM}				
	I_G = 0.3 A,	non repetitive, I_T = I_{TAVM}		500	A/µs
	di_G/dt = 0.3 A/µs				
$(dv/dt)_{cr}$	T_{VJ} = T_{VJM}; V_{DR} = 2/3 V_{DRM}			200	V/µs
	R_{GK} = ∞; method 1 (linear voltage rise)				
V_{RGM}				10	V
P_{GM}	T_{VJ} = T_{VJM}	t_p = 30 µs	≤	10	W
	I_T = I_{TAVM}	t_p = 10 ms	≤	1	W
P_{GAVM}				0.5	W
T_{VJ}				-40...+125	°C
T_{VJM}				125	°C
T_{stg}				-40...+125	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min		3000	V~
	I_{ISOL} ≤ 1 mA	t = 1 s		3600	V~
M_d	Mounting torque	(M5)		2-2.5	Nm
		(10-32 UNF)		18-22	lb.in.
Weight	typ.			28	g

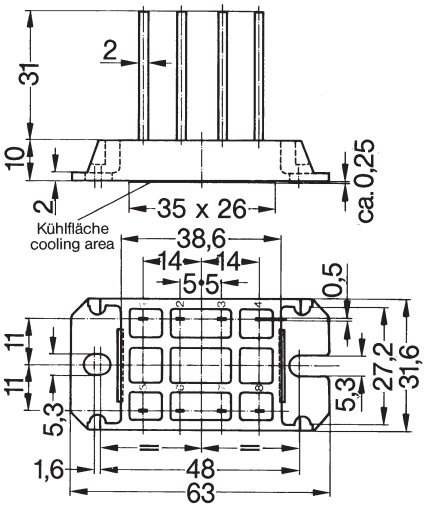
Data according to IEC 60747 and refer to a single thyristor/diode unless otherwise stated.

Features
- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Fast recovery diodes to reduce EMI
- Separate thyristor for softstart
- Solderable terminals
- UL registered E 72873

Applications
- Input rectifier for switching power supplies (SMPS)
- Softstart capacitor charging
- Electric drives and auxiliaries

Advantages
- Easy to mount with two screws
- Space and weight savings
- Improved temperature & power cycling
- Up to 10 dB lower EMI/RFI compared to standard rectifier

Dimensions in mm (1 mm = 0.0394")



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

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Symbol	Conditions		Characteristic Values Diode	Thyristor	
I_R, I_D	$V_R = V_{RRM}$; $V_D = V_{DRM}$	$T_{VJ} = T_{VJM}$	≤ 5	≤ 5	mA
		$T_{VJ} = 25°C$	≤ 0.3	≤ 0.3	mA
V_F, V_T	$I_F = 55$ A; $I_T = 45$ A, $T_{VJ} = 25°C$		≤ 2.2	≤ 1.5	V
V_{T0}	For power-loss calculations only		1.2	1.1	V
r_T	($T_{VJ} = 125°C$)		18	11	mΩ
V_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$		≤ 1.5	V
I_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$		≤ 80	mA
V_{GD}	$T_{VJ} = T_{VJM}$;	$V_D = 2/3\ V_{DRM}$		≤ 0.2	V
I_{GD}	$T_{VJ} = T_{VJM}$;	$V_D = 2/3\ V_{DRM}$		≤ 5	mA
I_L	$T_{VJ} = 25°C$; $t_G = 30$ µs $I_G = 0.3$ A; $di_G/dt = 0.3$ A/µs			≤ 300	mA
I_H	$T_{VJ} = 25°C$; $V_D = 6$ V; $R_{GK} = \infty$			≤ 100	mA
t_{gd}	$T_{VJ} = 25°C$; $V_D = 1/2\ V_{DRM}$ $I_G = 0.3$ A; $di_G/dt = 0.3$ A/µs			≤ 2.5	µs
t_q	$T_{VJ} = 125°C$; $I_T = 15$ A, $t_p = 300$ µs, -di/dt = 10 A/µs $V_R = 100$ V, dv/dt = 20 V/µs, $V_D = 2/3\ V_{DRM}$			typ. 130	µs
t_{rr}	$T_{VJ} = 25°C$; $I_F = 10$ A; -di/dt = 10 A/µs, $V_R = 1/2\ V_{RRM}$		≤ 1.5	-	µs
R_{thJC}	per thyristor (diode); DC current		2.3	0.9	K/W
	per module		0.38	-	K/W
R_{thJH}	per thyristor (diode); DC current		2.9	1.1	K/W
	per module		0.48	-	K/W
d_S	Creeping distance on surface			7	mm
d_A	Creepage distance in air			7	mm
a	Max. allowable acceleration			50	m/s^2