Three Phase
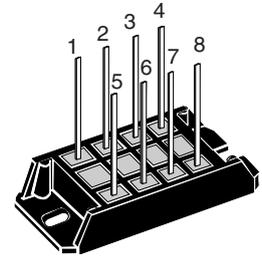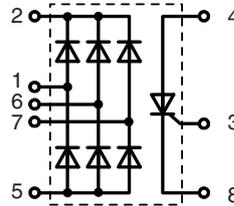# Rectifier Bridge
with Fast Diodes and "Softstart" Thyristor

I_{dAVM} = **39 A**
I_{TAVM} = **31 A**
V_{RRM} = **1200/1600 V**

V_{RSM}	V_{RRM}	Type
V	V	
1300	1200	VUC 36-12go2
1700	1600	VUC 36-16go2

Symbol	Conditions		Maximum Ratings		
			Diode	Thyristor	
I_{dAV}	$T_K = 85°C$, module		34	-	A
I_{dAVM}	module		39	-	A
I_{TAVM}	$T_K = 85°C$, DC		-	31	A
I_{FSM}, I_{TSM}	$T_{VJ} = 45°C$	t = 10 ms (50 Hz), sine	300	400	A
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	330	440	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	270	360	A
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	300	400	A
I^2t	$T_{VJ} = 45°C$	t = 10 ms (50 Hz), sine	450	800	A²s
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	460	810	A²s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	365	650	A²s
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	380	670	A²s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $f = 400$ Hz, $t_P = 200$ µs $V_D = {}^2/_3 V_{DRM}$	repetitive, $I_T = 50$ A		150	A/µs
	$I_G = 0.3$ A $di_G/dt = 0.3$ A/µs	non repetitive, $I_T = I_{TAVM}$		500	A/µs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_{DR} = {}^2/_3 V_{DRM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)			200	V/µs
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~
	$I_{ISOL} \leq 1$ 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
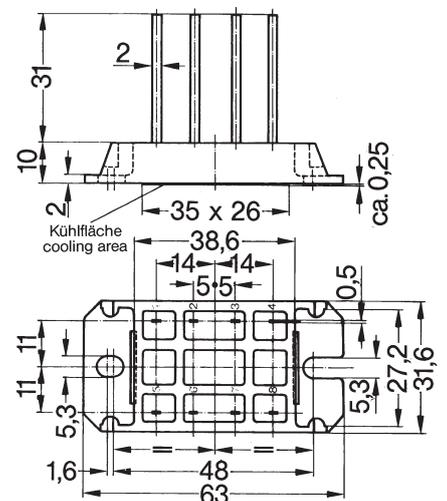• Solderable terminals
• UL registered E 72873

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")

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Symbol	Conditions			Characteristic Values Diode	Thyristor	
I_R, I_D	$V_R = V_{RRM}$; $V_D = V_{DRM}$	$T_{VJ} = T_{VJM}$		$\leq$ 5	$\leq$ 5	mA
		$T_{VJ} = 25°C$		$\leq$ 0.3	$\leq$ 0.3	mA
V_F, V_T	$I_F = 55$ A; $I_T = 45$ A	$T_{VJ} = 25°C$		≤ 1.85	$\leq$ 1.4	V
V_{T0}	For power-loss calculations only			1.2	0.85	V
r_T		$T_{VJ} = 125°C$		16	10	mΩ
V_{GT}	$V_D = 6$ V	$T_{VJ} = 25°C$			$\leq$ 1.5	V
I_{GT}	$V_D = 6$ V	$T_{VJ} = 25°C$			$\leq$ 80	mA
V_{GD}	$V_D = {}^2/_3 \, V_{DRM}$	$T_{VJ} = T_{VJM}$			$\leq$ 0.2	V
I_{GD}	$V_D = {}^2/_3 \, V_{DRM}$	$T_{VJ} = T_{VJM}$			$\leq$ 5	mA
I_L	$t_G = 30$ µs; $I_G = 0.3$ A $di_G/dt = 0.3$ A/µs	$T_{VJ} = 25°C$			$\leq$ 300	mA
I_H	$V_D = 6$ V; $R_{GK} = \infty$	$T_{VJ} = 25°C$			$\leq$ 100	mA
t_{gd}	$V_D = \frac{1}{2}V_{DRM}$; $I_G = 0.3$ A $di_G/dt = 0.3$ A/µs	$T_{VJ} = 25°C$			$\leq$ 2.5	µs
t_q	$I_T = 15$ A; $t_p = 300$ µs; $-di/dt = 10$ A/µs; $T_{VJ} = 125°C$ $V_R = 100$ V; $dv/dt = 20$ V/µs; $V_D = {}^2/_3 \, V_{DRM}$				typ. 130	µs
t_{rr}	$I_F = 10$ A; $V_R = \frac{1}{2}V_{RRM}$ $-di/dt = 10$ A/µs	$T_{VJ} = 25°C$		$\leq$ 1.5	-	µs
R_{thJC}	per thyristor (diode); DC current			1.4	0.9	K/W
	per module			0.233	-	K/W
R_{thJH}	per thyristor (diode); DC current			2.0	1.1	K/W
	per module			0.333	-	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

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

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