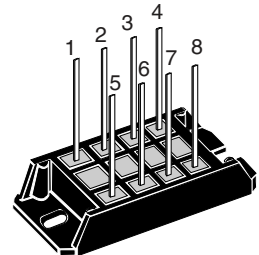
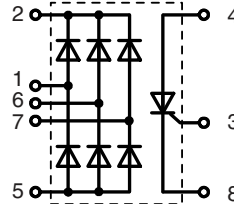


# Three Phase Rectifier Bridge

with Fast Diodes and "Softstart" Thyristor

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

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



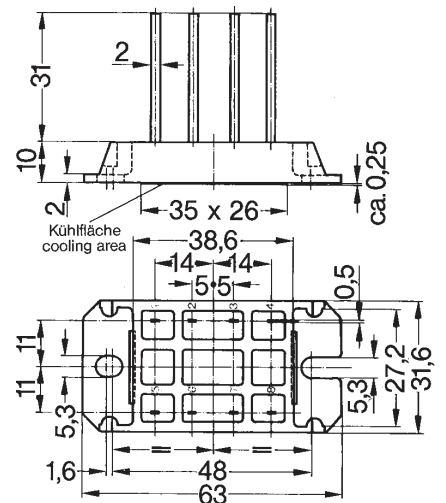
Symbol	Conditions	Maximum Ratings	
		Diode	Thyristor
$I_{dAV}$	$T_K = 85^\circ\text{C}$ ; module	25	-
$I_{dAVM}$	module	28	-
$I_{TAVM}$	$T_K = 85^\circ\text{C}$ ; (DC)	-	26
$I_{FSM}, I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine $t = 8.3 \text{ ms}$ (60 Hz), sine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

- 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")**



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

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

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Symbol	Conditions	Characteristic Values	
		Diode	Thyristor
$I_R, I_D$	$V_R = V_{RRM}; V_D = V_{DRM}$ $T_{VJ} = T_{VJM}$ $T_{VJ} = 25^\circ\text{C}$	$\leq 5$ $\leq 0.3$	$\leq 5$ mA $\leq 0.3$ mA
$V_F, V_T$	$I_F = 55$ A; $I_T = 45$ A, $T_{VJ} = 25^\circ\text{C}$	$\leq 2.2$	$\leq 1.5$ V
$V_{T0}$	For power-loss calculations only	1.2	1.1 V
$r_T$	( $T_{VJ} = 125^\circ\text{C}$ )	18	11 m $\Omega$
$V_{GT}$	$V_D = 6$ V; $T_{VJ} = 25^\circ\text{C}$		$\leq 1.5$ V
$I_{GT}$	$V_D = 6$ V; $T_{VJ} = 25^\circ\text{C}$		$\leq 80$ mA
$V_{GD}$	$T_{VJ} = T_{VJM};$ $T_{VJ} = T_{VJM};$	$V_D = 2/3 V_{DRM}$ $V_D = 2/3 V_{DRM}$	$\leq 0.2$ V $\leq 5$ mA
$I_L$	$T_{VJ} = 25^\circ\text{C}; t_G = 30$ $\mu\text{s}$ $I_G = 0.3$ A; $di_G/dt = 0.3$ A/ $\mu\text{s}$		$\leq 300$ mA
$I_H$	$T_{VJ} = 25^\circ\text{C}; V_D = 6$ V; $R_{GK} = \infty$		$\leq 100$ mA
$t_{gd}$	$T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 0.3$ A; $di_G/dt = 0.3$ A/ $\mu\text{s}$		$\leq 2.5$ $\mu\text{s}$
$t_q$	$T_{VJ} = 125^\circ\text{C}; I_T = 15$ A, $t_p = 300$ $\mu\text{s}$ , $-di/dt = 10$ A/ $\mu\text{s}$ $V_R = 100$ V, $dv/dt = 20$ V/ $\mu\text{s}$ , $V_D = 2/3 V_{DRM}$		typ. 130 $\mu\text{s}$
$t_{rr}$	$T_{VJ} = 25^\circ\text{C}; I_F = 10$ A; $-di/dt = 10$ A/ $\mu\text{s}$ , $V_R = 1/2 V_{RRM}$	$\leq 1.5$	- $\mu\text{s}$
$R_{thJC}$	per thyristor (diode); DC current per module	2.3 0.38	0.9 K/W - K/W
$R_{thJH}$	per thyristor (diode); DC current per module	2.9 0.48	1.1 K/W - 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 <sup>2</sup>