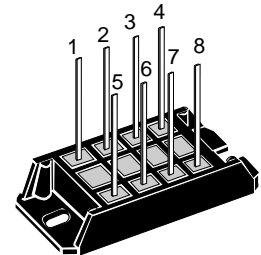
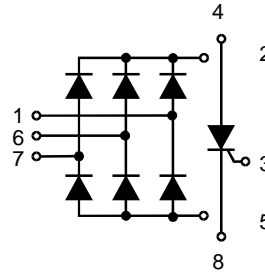


# Three Phase Rectifier Bridge

with Fast Diodes and "Softstart" Thyristor

**$I_{dAVM} = 39\text{ A}$**   
 **$I_{TAVM} = 31\text{ A}$**   
 **$V_{RRM} = 1200\text{-}1600\text{ V}$**

$V_{RSM}$	$V_{RRM}$	Type
$V_{DSM}$	$V_{DRM}$	
V	V	
<b>1300</b>	<b>1200</b>	<b>VUC 36-12go2</b>
<b>1500</b>	<b>1400</b>	<b>VUC 36-14go2</b>
<b>1700</b>	<b>1600</b>	<b>VUC 36-16go2</b>



Symbol	Test Conditions	Maximum Ratings			
		Diode	Thyristor		
$I_{dAV}$	$T_K = 85^\circ\text{C}$ ; module	34	-	A	
$I_{dAVM}$	module	39	-	A	
$I_{TAVM}$	$T_K = 85^\circ\text{C}$ ; (DC)	-	31	A	
$I_{FSM}, I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ ;	$t = 10\text{ ms}$ (50 Hz), sine	300	400	A
	$V_R = 0$	$t = 8.3\text{ ms}$ (60 Hz), sine	330	440	A
$I^2t$	$T_{VJ} = T_{VJM}$	$t = 10\text{ ms}$ (50 Hz), sine	270	360	A
	$V_R = 0$	$t = 8.3\text{ ms}$ (60 Hz), sine	300	400	A
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$	repetitive, $I_T = 50\text{ A}$		150	A/ $\mu\text{s}$
	$f = 400\text{ Hz}$ , $t_p = 200\text{ }\mu\text{s}$	non repetitive, $I_T = I_{TAVM}$		500	A/ $\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; $V_{DR} = 2/3 V_{DRM}$			200	V/ $\mu\text{s}$
	$R_{GK} = \infty$ ; method 1 (linear voltage rise)				
$V_{RGM}$			10	V	
$P_{GM}$	$T_{VJ} = T_{VJM}$	$t_p = 30\text{ }\mu\text{s}$	$\leq$	10	W
	$I_T = I_{TAVM}$	$t_p = 10\text{ ms}$	$\leq$	1	W
$P_{GAVM}$				0.5	W
$T_{VJ}$			-40...+125	$^\circ\text{C}$	
$T_{VJM}$			125	$^\circ\text{C}$	
$T_{stg}$			-40...+125	$^\circ\text{C}$	
$V_{ISOL}$	50/60 Hz, RMS	$t = 1\text{ min}$		3000	V~
	$I_{ISOL} \leq 1\text{ mA}$	$t = 1\text{ s}$		3600	V~
$M_d$	Mounting torque	(M5)		2-2.5	Nm
		(10-32 UNF)		18-22	lb.in.
Weight	typ.			28	g

### 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

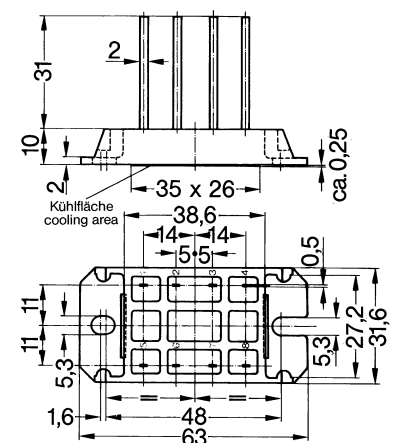
### Applications

- 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 and 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.

Symbol	Test 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, $T_{VJ} = 25^\circ\text{C}$	$\leq 1.85$	$\leq 1.4$ V
$V_{T0}$	For power-loss calculations only	1.2	0.85 V
$r_T$	( $T_{VJ} = 125^\circ\text{C}$ )	16	10 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	1.4 0.233	0.9 K/W - K/W
$R_{thJH}$	per thyristor (diode); DC current per module	2.0 0.333	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>