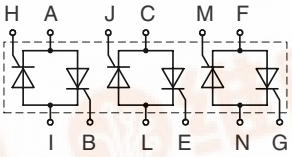
AC Controller Modules

I_{RMS} = 3x 35 A
V_{RRM} = 800-1200 V

Preliminary data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
900	800	VWO 35-08ho7
1300	1200	VWO 35-12ho7



Symbol	Conditions		Maximum Ratings	
I_{RMS}	T_C = 85°C, (per phase)		35	A
I_{TAVM}	T_C = 85°C; (180° sine ; per thyristor)		16	A
I_{TSM}	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	200	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	210	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	180	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	190	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	200	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	150	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	160	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	150	A^2s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$	repetitive, I_T = 20 A	100	A/µs
	f = 50 Hz, t_P = 200 µs			
	$V_D = {}^2/_3 V_{DRM}$			
	I_G = 0.15 A	non repetitive, $I_T = I_{TAVM}$	500	A/µs
	di_G/dt = 0.15 A/µs			
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_{DR} = {}^2/_3 V_{DRM}$		500	V/µs
	$R_{GK} = \infty$; method 1 (linear voltage rise)			
V_{RGM}			10	V
P_{GM}	$T_{VJ} = T_{VJM}$	t_p = 30 µs	≤ 5	W
	$I_T = I_{TAVM}$	t_p = 300 µs	≤ 2.5	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	2500	V~
	I_{ISOL} ≤ 1 mA	t = 1 s	3000	V~
M_d	Mounting torque	(M4)	1.5 - 2	Nm
Weight	typ.		18	g

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

Features

- Thyristor controller for AC (circuit W3C acc. to IEC) for mains frequency
- Soldering connections for PCB mounting
- Isolation voltage 3000 V~
- Planar passivated chips

Applications

- Switching and control of three phase AC circuits
- Softstart AC motor controller
- Solid state switches
- Light and temperature control

Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

Symbol	Conditions		Characteristic Values		
I_D, I_R	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$; $V_D = V_{DRM}$		≤	5	mA
V_T	I_T = 20 A; T_{VJ} = 25°C		≤	1.6	V
V_{T0}	For power-loss calculations only			0.85	V
r_T				27	mΩ
V_{GT}	V_D = 6 V	T_{VJ} = 25°C	≤	1.5	V
		T_{VJ} = -40°C	≤	2.5	V
I_{GT}	V_D = 6 V	T_{VJ} = 25°C	≤	25	mA
		T_{VJ} = -40°C	≤	50	mA
V_{GD}	$T_{VJ} = T_{VJM}$; $V_D = {}^2/_3\ V_{DRM}$		≤	0.2	V
I_{GD}			≤	3	mA
I_L	T_{VJ} = 25°C; t_P = 10 µs I_G = 0.1 A; di_G/dt = 0.1 A/µs		≤	75	mA
I_H	T_{VJ} = 25°C; V_D = 6 V; R_{GK} = ∞		≤	50	mA
t_{gd}	T_{VJ} = 25°C; V_D = ½ V_{DRM} I_G = 0.1 A; di_G/dt = 0.1 A/µs		≤	2	µs
R_{thJC}	per thyristor; DC			1.3	K/W
	per module			0.22	K/W
R_{thJK}	per thyristor; DC			1.8	K/W
	per module			0.3	K/W
d_S	Creeping distance on surface			11.2	mm
d_A	Creepage distance in air			5.0	mm
a	Max. allowable acceleration			50	m/s^2

Dimensions in mm (1 mm = 0.0394")