

Three Phase AC Controller Modules

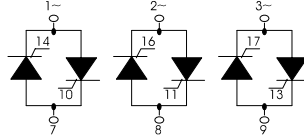
PSUT 36

I_{RMS} = 3 x 39A
 V_{RRM} = 400-1600 V

Preliminary Data Sheet

V_{RSM} V_{DSM}	V_{RRM} V_{DRM}	Type
500	400	PSUT 36/04
900	800	PSUT 36/08
1300	1200	PSUT 36/12
1500	1400	PSUT 36/14
*1700	*1600	PSUT 36/16

* Delivery on request



Symbol	Test Conditions	Maximum Ratings
I_{RMS}	$T_C = 85^\circ C$, 50-400 Hz (per phase)	39 A
I_{TRMS}	$T_{VJ} = T_{VJM}$	28 A
I_{TAVM}	$T_C = 85^\circ C$ 180° sine	18 A
I_{TSM}	$T_{VJ} = 45^\circ C$ $t = 10$ ms (50 Hz), sine	320 A
	$V_R = 0$ $t = 8.3$ ms (60 Hz), sine	350 A
	$T_{VJ} = T_{VJM}$ $t = 10$ ms (50 Hz), sine	280 A
	$V_R = 0$ $t = 8.3$ ms (60 Hz), sine	310 A
$\int i^2 dt$	$T_{VJ} = 45^\circ C$ $t = 10$ ms (50 Hz), sine	500 $A^2 s$
	$V_R = 0$ $t = 8.3$ ms (60 Hz), sine	520 $A^2 s$
	$T_{VJ} = T_{VJM}$ $t = 10$ ms (50 Hz), sine	390 $A^2 s$
	$V_R = 0$ $t = 8.3$ ms (60 Hz), sine	400 $A^2 s$
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ repetitive, $I_T = 20$ A	150 $A/\mu s$
	$f = 50$ Hz, $t_p = 200 \mu s$	
	$V_D = 2/3 V_{DRM}$	
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $V_{DR} = 2/3 V_{DRM}$	1000 $V/\mu s$
	$R_{GK} = \infty$, method 1 (linear voltage rise)	
P_{GM}	$T_{VJ} = T_{VJM}$ $t_p = 30 \mu s$	10 W
	$I_T = I_{TAVM}$ $t_p = 300 \mu s$	5 W
P_{GAVM}		0.5 W
V_{RGM}		10 V
T_{VJ}		-40 ... + 125 $^\circ C$
T_{VJM}		125 $^\circ C$
T_{stg}		-40 ... + 125 $^\circ C$
V_{ISOL}	50/60 HZ, RMS $t = 1$ min	2500 V ~
	$I_{ISOL} \leq 1$ mA $t = 1$ s	3000 V ~
M_d	Mounting torque (M5)	2-2.5 Nm
Weight	typ.	100 g

Features

- Thyristor controller for AC (circuit W3C acc. to IEC) for mains frequency
- Isolation voltage 3000 V~
- Planar glasspassivated chips
- Package with metal base plate
- UL registered E 148688

Applications

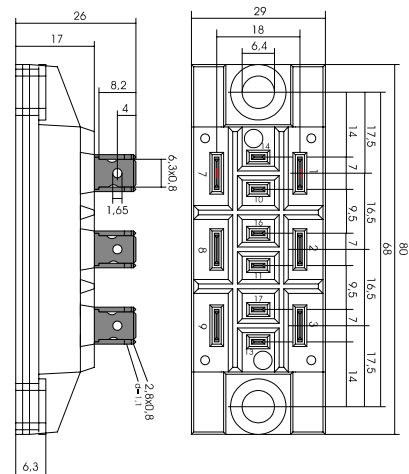
- Switching and control of three phase AC circuits
- Light and temperature control
- Softstart AC motor controller
- Solid state switches

Advantages

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

Package, stil and outline

Dimensions in mm (1mm = 0.0394")



Symbol	Test Conditions	Characteristic Value			
I_D, I_R	$T_{VJ} = T_{VJM}, V_R = V_{RRM}, V_D = V_{DRM}$	\leq	5	mA	
V_T	$I_T = 45A, T_{VJ} = 25^\circ C$	\leq	1.45	V	
V_{TO}	For power-loss calculations only ($T_{VJ} = T_{VJM}$)		0.85	V	
r_T			13	m Ω	
V_{GT}	$V_D = 6V$	$T_{VJ} = 25^\circ C$	\leq	1.0	V
		$T_{VJ} = -40^\circ C$	\leq	1.2	V
I_{GT}	$V_D = 6V$	$T_{VJ} = 25^\circ C$	\leq	65	mA
		$T_{VJ} = -40^\circ C$	\leq	80	mA
V_{GD}	$T_{VJ} = T_{VJM}, V_D = 2/3 V_{DRM}$	\leq	0.2	V	
I_{GD}	$T_{VJ} = T_{VJM}, V_D = 2/3 V_{DRM}$	\leq	5	mA	
I_L	$T_{VJ} = 25^\circ C, t_p = 10\mu s$ $I_G = 0.3A, di_G/dt = 0.3A/\mu s$	\leq	150	mA	
I_H	$T_{VJ} = 25^\circ C, V_D = 6V, R_{GK} = \infty$	\leq	100	mA	
t_{gd}	$T_{VJ} = 25^\circ C, V_D = 1/2 V_{DRM}$	\leq	2	μs	
	$I_G = 0.3A, di_G/dt = 0.3A/\mu s$				
t_q	$T_{VJ} = T_{VJM}, I_T = 20A, t_p = 200\mu s, V_R = 100V$		150	μs	
	$-di/dt = 10A/\mu s, dv/dt = 15V/\mu s, V_D = 2/3 V_{DRM}$				
R_{thJC}	per thyristor; sine 180°el		1.3	K/W	
	per module		0.22	K/W	
R_{thJK}	per thyristor; sine 180° el		1.5	K/W	
	per module		0.25	K/W	
d_s	Creeping distance on surface		16.1	mm	
d_A	Creeping distance in air		6.0	mm	
a	Max. allowable acceleration		50	m/s ²	