

Three Phase AC Controller Modules

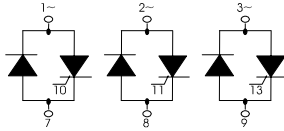
PSUH 60

$I_{RMS} = 3 \times 60 \text{ A}$
 $V_{RRM} = 400-1600 \text{ V}$

Preliminary Data Sheet

V_{RSM} V_{DSM}	V_{RRM} V_{DRM}	Type
500	400	PSUH 60/04
900	800	PSUH 60/08
1300	1200	PSUH 60/12
1500	1400	PSUH 60/14
*1700	*1600	PSUH 60/16

* Delivery on request



Symbol	Test Conditions	Maximum Ratings
I_{RMS}	$T_C = 85^\circ\text{C}$, 50-400 Hz (per phase)	60 A
I_{TRMS}	$T_{VJ} = T_{VJM}$	43 A
I_{TAVM}	$T_C = 85^\circ\text{C}$ 180° sine	27 A
I_{TSM}	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine	550 A
	$t = 8.3 \text{ ms}$ (60 Hz), sine	600 A
	$T_{VJ} = T_{VJM}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine	500 A
$\int i^2 dt$	$V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine	550 A
	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine	1520 $\text{A}^2 \text{s}$
	$T_{VJ} = T_{VJM}$ $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine	1520 $\text{A}^2 \text{s}$
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ repetitive, $I_T = 25 \text{ A}$	150 $\text{A}/\mu\text{s}$
	$f = 50\text{Hz}$, $t_p = 200\mu\text{s}$ $V_D = 2/3 V_{DRM}$	
	$I_G = 0.45 \text{ A}$ non repetitive, $I_T = I_{TAVM}$	500 $\text{A}/\mu\text{s}$
$(dv/dt)_{cr}$	$di_G/dt = 0.45 \text{ A}/\mu\text{s}$	
	$T_{VJ} = T_{VJM}$ $V_{DR} = 2/3 V_{DRM}$ $R_{GK} = \infty$, method 1 (linear voltage rise)	1000 $\text{V}/\mu\text{s}$
P_{GM}	$T_{VJ} = T_{VJM}$ $t_p = 30\mu\text{s}$	10 W
	$I_T = I_{TAVM}$ $t_p = 300\mu\text{s}$	5 W
P_{GAVM}		0.5 W
V_{RGM}		10 V
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 $t = 1 \text{ min}$	2500 V ~
	$I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$	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

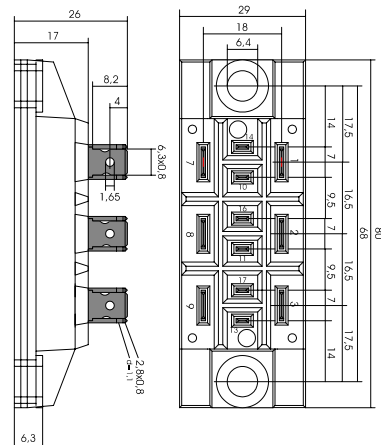
- Switching and control of three phase AC circuits
- Light and temperature control
- Softstart AC motor controller
- Solid state switches

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			11	m Ω	
V_{GT}	$V_D = 6V$	$T_{VJ} = 25^\circ C$	\leq	1.5	V
		$T_{VJ} = -40^\circ C$	\leq	1.6	V
I_{GT}	$V_D = 6V$	$T_{VJ} = 25^\circ C$	\leq	100	mA
		$T_{VJ} = -40^\circ C$	\leq	200	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	$T_{VJ} = 25^\circ C, t_p = 10\mu s$	\leq	450	mA	
	$I_G = 0.45A, di_G/dt = 0.45A/\mu s$				
I_H	$T_{VJ} = 25^\circ C, V_D = 6V, R_{GK} = \infty$	\leq	200	mA	
t_{gd}	$T_{VJ} = 25^\circ C, V_D = 1/2 V_{DRM}$	\leq	2	μs	
	$I_G = 0.45A, di_G/dt = 0.45A/\mu s$				
t_q	$T_{VJ} = T_{VJM}, I_T = 20A, t_p = 200\mu s, V_R = 100V$ $-di/dt = 10A/\mu s, dv/dt = 15V/\mu s, V_D = 2/3 V_{DRM}$	typ.	150	μs	
R_{thJC}	per thyristor; sine 180°el		0.9	K/W	
	per module		0.15	K/W	
R_{thJK}	per thyristor; sine 180° el		1.1	K/W	
	per module		0.18	K/W	
d_s	Creeping distance on surface		16.1	mm	
d_A	Creeping distance in air		6	mm	
a	Max. allowable acceleration		50	m/s ²	