

Three Phase AC Controller Modules

PSUH 60

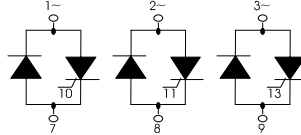
I_{RMS}
 V_{RRM}

= 3 x 60 A
= 400-1600 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}	$T_{VJ} = 45^\circ\text{C}$	$t = 10\text{ ms}$ (50 Hz), sine	550	A
	$V_R = 0$	$t = 8.3\text{ ms}$ (60 Hz), sine	600	A
	$T_{VJ} = T_{VJM}$	$t = 10\text{ ms}$ (50 Hz), sine	500	A
	$V_R = 0$	$t = 8.3\text{ ms}$ (60 Hz), sine	550	A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$	$t = 10\text{ ms}$ (50 Hz), sine	1520	$\text{A}^2\text{ s}$
	$V_R = 0$	$t = 8.3\text{ ms}$ (60 Hz), sine	1520	$\text{A}^2\text{ s}$
	$T_{VJ} = T_{VJM}$	$t = 10\text{ ms}$ (50 Hz), sine	1250	$\text{A}^2\text{ s}$
	$V_R = 0$	$t = 8.3\text{ ms}$ (60 Hz), sine	1250	$\text{A}^2\text{ s}$
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$	repetitive, $I_T = 25\text{ A}$	150	$\text{A}/\mu\text{s}$
	$f = 50\text{ Hz}$, $t_p = 200\mu\text{s}$			
	$V_D = 2/3 V_{DRM}$			
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$	$V_{DR} = 2/3 V_{DRM}$	1000	$\text{V}/\mu\text{s}$
	$R_{GK} = \infty$, method 1 (linear voltage rise)			
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

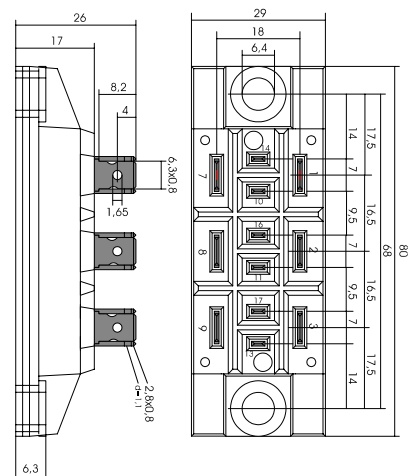
- Switching and control of three phase AC circuits
- Light and temperature control
- Softstart AC motor controller
- Solid state switches

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	$T_{VJ} = T_{VJM}, V_R = V_{RRM}, V_D = V_{DRM}$		≤ 5	mA
V_T	$I_T = 45A, T_{VJ} = 25^\circ C$		≤ 1.45	V
V_{TO}	For power-loss calculations only ($T_{VJ} = T_{VJM}$)		0.85	V
r_T			11	m Ω
V_{GT}	$V_D = 6V$	$T_{VJ} = 25^\circ C$	≤ 1.5	V
		$T_{VJ} = -40^\circ C$	≤ 1.6	V
I_{GT}	$V_D = 6V$	$T_{VJ} = 25^\circ C$	≤ 100	mA
		$T_{VJ} = -40^\circ C$	≤ 200	mA
V_{GD}	$T_{VJ} = T_{VJM}$	$V_D = 2/3 V_{DRM}$	≤ 0.2	V
I_{GD}	$T_{VJ} = T_{VJM}$	$V_D = 2/3 V_{DRM}$	≤ 5	mA
I_L	$T_{VJ} = 25^\circ C, t_p = 10\mu s$		≤ 450	mA
	$I_G = 0.45A, di_G/dt = 0.45A/\mu s$			
I_H	$T_{VJ} = 25^\circ C, V_D = 6V, R_{GK} = \infty$		≤ 200	mA
t_{gd}	$T_{VJ} = 25^\circ C, V_D = 1/2 V_{DRM}$		≤ 2	μs
	$I_G = 0.45A, di_G/dt = 0.45A/\mu s$			
t_q	$T_{VJ} = T_{VJM}, I_T = 20A, t_p = 200\mu s, V_R = 100V$		typ. 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		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