POWERSEM

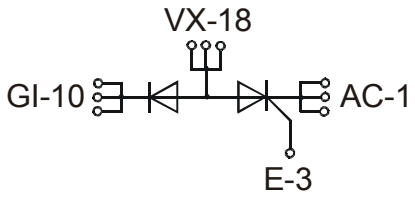
ECO-PAC™ 2

Thyristor/Diode Modules PSKH 80

I_{TAVM} = 80 A
V_{RRM} = 600-1200V

Preliminary Data Sheet

V_{RSM} V_{DSM} (V)	V_{RRM} V_{DRM} (V)	Type
700	600	PSKH 80/06
900	800	PSKH 80/08
1300	1200	PSKH 80/12



Symbol	Test Conditions		Maximum Ratings	
I_{TAVM}	T_C = 85 °C,	180° sine	80	A
I_{TSM}	T_{VJ} = 45 °C	t = 10 ms (50 Hz), sine	550	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	600	A
	T_{VJ} = 125 °C	t = 10 ms (50 Hz), sine	500	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	550	A
$\int i^2 dt$	T_{VJ} = 45 °C	t = 10 ms (50 Hz), sine	1500	A²s
	V_R = 0	t = 8.3 ms (60 Hz), sine	1490	A²s
	T_{VJ} = 125 °C	t = 10 ms (50 Hz), sine	1250	A²s
	V_R = 0	t = 8.3 ms (60 Hz), sine	1250	A²s
$(di/dt)_{cr}$	T_{VJ} = 125 °C	repetitive, I_T = 250 A	150	A/µs
	f=50Hz, t_P=200µs			
	V_D=2/3V_{DRM}			
	I_G=0.45 A	non repetitive, I_T = I_{TAVM}	500	A/µs
	di_G/dt=0.45A/µs			
$(dv/dt)_{cr}$	T_{VJ} = 125 °C	V_D=2/3V_{DRM}	1000	V/µs
	R_{GK}= ∞, method 1 (linear voltage rise)			
P_{GM}	T_{VJ} = 125 °C	t_P=30µs	≤ 10	W
	I_T =I_{TAVM}	t_P=300µs	≤ 5	W
P_{GAVM}			0.5	W
V_{RGM}			10	V
T_{VJ}			-40... + 125	°C
T_{VJM}			125	°C
T_{stg}			-40... + 125	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min	3000	V~
	I_{ISOL} ≤ 1 mA	t = 1 s	3600	V~
M_d	Mounting torque	(M4)	1.5 - 2.0	Nm
			14 - 18	lb.in.
Weight	typ.		24	g

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

Features

- Isolation voltage 3600 V~
- Planar glass passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering
- UL registered, E 148688

Applications

- DC motor control
- 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
- Small and light weight

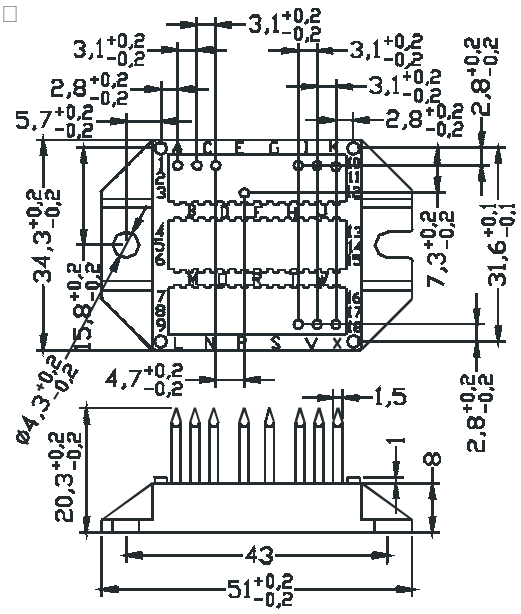
POWERSEM GmbH, Walpersdorfer Str. 53
D - 91126 Schwabach
Phone: 09122 - 9764 - 0 FAX: 09122 - 9764 - 20

Thyristor

Symbol	Test Conditions			Characteristic Value	
I_D, I_R	T_{VJ} = 125°C, $V_R = V_{RRM}$, $V_D = V_{DRM}$		≤	5	mA
V_T	I_T = 150 A,	T_{VJ} = 25 °C	≤	1.45	V
V_{TO}	For power-loss calculations only			0.8	V
r_T				2.95	mΩ
V_{GT}	V_D=6V	T_{VJ}= 25°C	≤	1.5	V
		T_{VJ}=-40°C	≤	1.6	V
I_{GT}	V_D=6V	T_{VJ}= 25°C	≤	150	mA
		T_{VJ}=-40°C	≤	200	mA
V_{GD}	T_{VJ}= 125°C	$V_D = 2/3V_{DRM}$	≤	0.2	V
I_{GD}	T_{VJ}= 125°C	$V_D = 2/3V_{DRM}$	≤	10	mA
I_L	T_{VJ}= 25°C, t_P=10µs		≤	450	mA
	I_G=0.45A, di_G/dt=0.45A/µs				
I_H	T_{VJ}= 25°C, V_D=6V, R_{GK}= ∞		≤	200	mA
t_{gd}	T_{VJ}= 25°C, $V_D = 1/2V_{DRM}$		≤	2	µs
	I_G=0.45A, di_G/dt=0.45A/µs				
R_{thJC}	per thyristor; DC			0.36	K/W
	per module			0.18	K/W
R_{thJK}	per thyristor; sine 180° el			0.56	K/W
	per module			0.28	K/W
d_s	Creeping distance on surface			11.2	mm
d_A	Creeping distance in air			5.0	mm
a	Max. allowable acceleration			50	m/s²

Package style and outline

Dimensions in mm (1mm = 0.0394“)



Fast Recovery Epitaxial Diode (FRED)

Symbol	Conditions	Maximum Ratings	
I_F	T_C = 85°C	85	A

Symbol	Conditions	Characteristic Values min.	typ.	max.	
V_F	I_F = 100 A; T_{VJ} = 25°C		2.3	2.7	V
	T_{VJ} = 125°C		1.7		V
I_{RM}	I_F = 75 A; di_F/dt = 750 A/µs; T_{VJ} = 125°C		79		A
t_{rr}	V_R = 600 V; V_{GE} = 0 V		220		ns
R_{thJC}				0.45	K/W
R_{thJH}	with heatsink compound (0.42 K/m.K; 50 µm)		0.9		K/W

POWERSEM GmbH, Walpersdorfer Str. 53
D - 91126 Schwabach
Phone: 09122 - 9764 - 0 FAX: 09122 - 9764 - 20