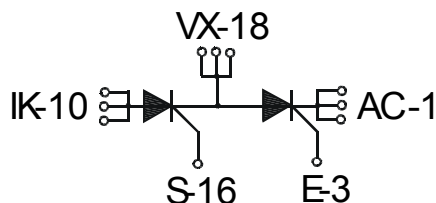


Thyristor Modules PSKT 96 Thyristor/Thyristor Modules

$I_{TRMS} = 2 \times 180 \text{ A}$
 $I_{TAVM} = 2 \times 105 \text{ A}$
 $V_{RRM} = 600-1800 \text{ V}$

Preliminary Data Sheet

| V_{RSM} V_{DSM} (V) | V_{RRM} V_{DRM} (V) | Type |
|-------------------------------|-------------------------------|------------|
| 700 | 600 | PSKT 96/06 |
| 900 | 800 | PSKT 96/08 |
| 1300 | 1200 | PSKT 96/12 |
| 1500 | 1400 | PSKT 96/14 |
| 1700 | 1600 | PSKT 96/16 |
| 1900 | 1800 | PSKT 96/18 |



Symbol Test Conditions Maximum Ratings

| | | | |
|----------------|-----------------------------------------------------------------------------------------------------------------|--------------|------------------|
| I_{TRMS} | | 180 | A |
| I_{TAVM} | $T_C = 85^\circ \text{C}$, 180° sine | 105 | A |
| I_{TSM} | $T_{VJ} = 45^\circ \text{C}$ t = 10 ms (50 Hz), sine | 2250 | A |
| | $V_R = 0$ t = 8.3 ms (60 Hz), sine | 2400 | A |
| | $T_{VJ} = 125^\circ \text{C}$ t = 10 ms (50 Hz), sine | 2000 | A |
| | $V_R = 0$ t = 8.3 ms (60 Hz), sine | 2150 | A |
| $\int i^2 dt$ | $T_{VJ} = 45^\circ \text{C}$ t = 10 ms (50 Hz), sine | 25300 | A ² s |
| | $V_R = 0$ t = 8.3 ms (60 Hz), sine | 23900 | A ² s |
| | $T_{VJ} = 125^\circ \text{C}$ t = 10 ms (50 Hz), sine | 20000 | A ² s |
| | $V_R = 0$ t = 8.3 ms (60 Hz), sine | 19100 | A ² s |
| $(di/dt)_{cr}$ | $T_{VJ} = 125^\circ \text{C}$ repetitive, $I_T = 250 \text{ A}$ f=50Hz, $t_p=200\mu\text{s}$ | 150 | A/ μs |
| | $V_D=2/3V_{DRM}$ $I_G=0.45 \text{ A}$ non repetitive, $I_T = I_{TAVM}$ $di_G/dt=0.45\text{A}/\mu\text{s}$ | 500 | A/ μs |
| $(dv/dt)_{cr}$ | $T_{VJ} = 125^\circ \text{C}$ $V_D=2/3V_{DRM}$ $R_{GK} = \infty$, method 1 (linear voltage rise) | 1000 | V/ μs |
| P_{GM} | $T_{VJ} = 125^\circ \text{C}$ $t_p=30\mu\text{s}$ | ≤ 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 | °C |
| T_{VJM} | | 125 | °C |
| T_{stg} | | -40... + 125 | °C |
| V_{ISOL} | 50/60 Hz, RMS t = 1 min | 3000 | V~ |
| | $I_{ISOL} \leq 1 \text{ mA}$ t = 1 s | 3600 | V~ |
| M_d | Mounting torque (M4) | 1.5 - 2.0 | Nm |
| | | 14 - 18 | lb.in. |
| Weight | typ. | 24 | g |

Features

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- 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

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

| Symbol | Test Conditions | Characteristic Value |
|------------|--------------------------------------------------------------------|------------------------|
| $I_{D,R}$ | $T_{VJ} = 125^{\circ}\text{C}$, $V_R = V_{RRM}$, $V_D = V_{DRM}$ | ≤ 5 mA |
| V_T | $I_T = 150$ A, $T_{VJ} = 25^{\circ}\text{C}$ | ≤ 1.2 V |
| V_{TO} | For power-loss calculations only | 0.8 V |
| r_T | | 2.4 m Ω |
| V_{GT} | $V_D = 6$ V, $T_{VJ} = 25^{\circ}\text{C}$ | ≤ 1.5 V |
| | $T_{VJ} = -40^{\circ}\text{C}$ | ≤ 1.6 V |
| I_{GT} | $V_D = 6$ V, $T_{VJ} = 25^{\circ}\text{C}$ | ≤ 150 mA |
| | $T_{VJ} = -40^{\circ}\text{C}$ | ≤ 200 mA |
| V_{GD} | $T_{VJ} = 125^{\circ}\text{C}$, $V_D = 2/3 V_{DRM}$ | ≤ 0.2 V |
| I_{GD} | $T_{VJ} = 125^{\circ}\text{C}$, $V_D = 2/3 V_{DRM}$ | ≤ 10 mA |
| I_L | $T_{VJ} = 25^{\circ}\text{C}$, $t_p = 10\mu\text{s}$ | ≤ 450 mA |
| | $I_G = 0.45$ A, $dI_G/dt = 0.45$ A/ μs | |
| I_H | $T_{VJ} = 25^{\circ}\text{C}$, $V_D = 6$ V, $R_{GK} = \infty$ | ≤ 200 mA |
| | | |
| t_{gd} | $T_{VJ} = 25^{\circ}\text{C}$, $V_D = 1/2 V_{DRM}$ | ≤ 2 μs |
| | $I_G = 0.45$ A, $dI_G/dt = 0.45$ A/ μs | |
| R_{thJC} | per thyristor; DC | 0.26 K/W |
| | per module | 0.13 K/W |
| R_{thJK} | per thyristor; sine 180° el | 0.46 K/W |
| | per module | 0.23 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/s ² |

Package style and outline

Dimensions in mm (1mm = 0.0394")

