

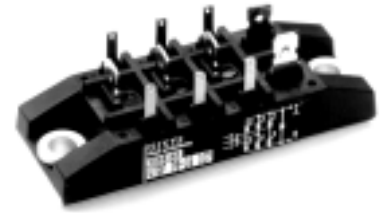
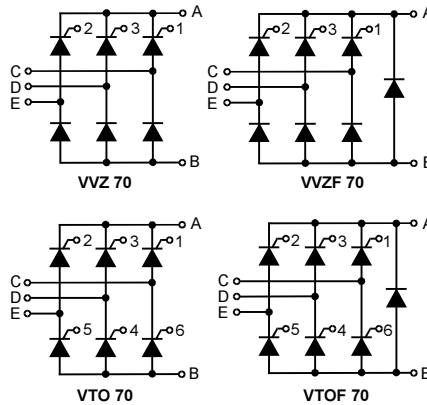
Three Phase Rectifier Bridge

I_{dAV} = 70 A
V_{RRM} = 800-1600 V

Preliminary data

| V _{RSM} V _{DSM} V | V _{RRM} V _{DRM} V | Type |
|---|---|--------------|
| 800 | 800 | xxx 70-08io7 |
| 1200 | 1200 | xxx 70-12io7 |
| 1400 | 1400 | xxx 70-14io7 |
| 1600 | 1600 | xxx 70-16io7 |

xxx = type



| Symbol | Test Conditions | Maximum Ratings | |
|---------------------------------------|---|---|-----------------------|
| I _{dAV} * | T _K = 85°C, module | 70 | A |
| I _{dAVM} * | module | 70 | A |
| I _{FRMS} , I _{TRMS} | per leg | 36 | A |
| I _{FSM} , I _{TSM} | T _{VJ} = 45°C; V _R = 0 V | t = 10 ms (50 Hz), sine | 550 A |
| | | t = 8.3 ms (60 Hz), sine | 600 A |
| I ² t | T _{VJ} = 45°C; V _R = 0 V | t = 10 ms (50 Hz), sine | 1520 A ² s |
| | | t = 8.3 ms (60 Hz), sine | 1520 A ² s |
| (di/dt) _{cr} | T _{VJ} = 125°C; f = 50 Hz, t _p = 200 μs | repetitive, I _T = 50 A | 150 A/μs |
| | V _D = 2/3 V _{DRM} ; I _G = 0.3 A; di _G /dt = 0.3 A/μs | non repetitive, I _T = 1/2 • I _{dAV} | 500 A/μs |
| (dv/dt) _{cr} | T _{VJ} = T _{VJM} ; V _{DR} = 2/3 V _{DRM} ; R _{GK} = ∞; method 1 (linear voltage rise) | | 1000 V/μs |
| V _{RGM} | | | 10 V |
| P _{GM} | T _{VJ} = T _{VJM} ; I _T = I _{TAVM} | t _p = 30 μs | ≤ 10 W |
| | | t _p = 500 μs | ≤ 5 W |
| | | t _p = 10 ms | ≤ 1 W |
| P _{GAVM} | | | 0.5 W |
| T _{VJ} | | | -40...+125 °C |
| T _{VJM} | | | 125 °C |
| T _{stg} | | | -40...+125 °C |
| V _{ISOL} | 50/60 Hz, RMS; I _{ISOL} ≤ 1 mA | t = 1 min | 2500 V~ |
| | | t = 1 s | 3000 V~ |
| M _d | Mounting torque (M5) (10-32 UNF) | | 5 ± 15 % Nm |
| | | | 44 ± 15 % lb.in. |
| Weight | | | 50 g |

Features

- Package with copper base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- 1/4" fast-on power terminals

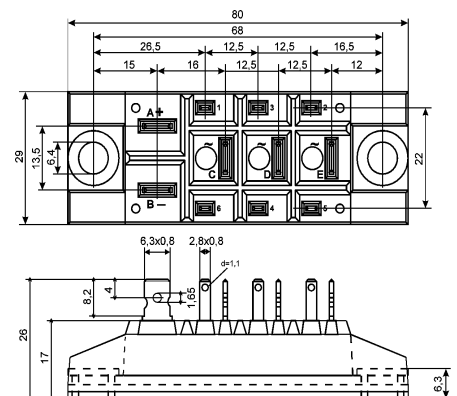
Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

Advantages

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

Dimensions in mm (1 mm = 0.0394")



Data according to IEC 60747 refer to a single diode/thyristor unless otherwise stated
 * for resistive load at bridge output. IXYS reserves the right to change limits, test conditions and dimensions.

| Symbol | Test Conditions | Characteristic Values | |
|------------|--|-----------------------|---------------------|
| I_D, I_R | $T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$ | \leq | 5 mA |
| V_T | $I_T = 80 \text{ A}; T_{VJ} = 25^\circ\text{C}$ | \leq | 1.64 V |
| V_{T0} | For power-loss calculations only | | 0.85 V |
| r_T | | | 11 m Ω |
| V_{GT} | $V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$ | \leq | 1.5 V |
| | $T_{VJ} = -40^\circ\text{C}$ | \leq | 1.6 V |
| I_{GT} | $V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$ | \leq | 100 mA |
| | $T_{VJ} = -40^\circ\text{C}$ | \leq | 200 mA |
| V_{GD} | $T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$ | \leq | 0.2 V |
| I_{GD} | | \leq | 5 mA |
| I_L | $T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$ | \leq | 450 mA |
| I_H | $T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$ | \leq | 200 mA |
| t_{gd} | $T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$ | \leq | 2 μs |
| t_q | $T_{VJ} = T_{VJM}; I_T = 20 \text{ A}, t_p = 200 \mu\text{s}; di/dt = -10 \text{ A}/\mu\text{s}$ $V_R = 100 \text{ V}; dv/dt = 15 \text{ V}/\mu\text{s}; V_D = 2/3 V_{DRM}$ | typ. | 250 μs |
| R_{thJC} | per thyristor / Diode; DC | | 0.9 K/W |
| | per module | | 0.15 K/W |
| R_{thJH} | per thyristor / Diode; DC | | 1.1 K/W |
| | per module | | 0.157 K/W |
| d_s | Creeping distance on surface | | 16.1 mm |
| d_A | Creepage distance in air | | 7.5 mm |
| a | Max. allowable acceleration | | 50 m/s ² |