勝特力電材超市-龍山店 886-3-5773766
勝特力電材超市-光復店 886-3-5729570
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
http://www.100y.com.tw

## THYRISTOR MODULE

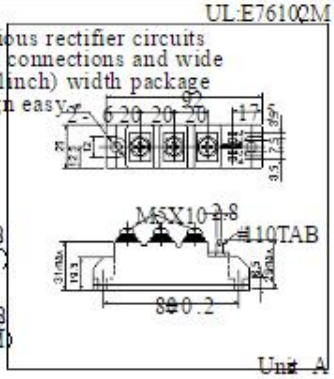
# PK(PD,PE,KK)25F

UL:E76102(M)

Power Thyristor/Diode Module PK25F series are designed for various rectifier circuits and power controls. For your circuit application, following internal connections and wide voltage ratings up to 1,600V are available. High precision 25mm (1inch) width package and electrically isolated mounting base make your mechanical design easy.

- IT(AV) 25A, IT(RMS) 39A, ITSM 580A
- di/dt 100A/μs
- dv/dt 500V/μs

(Applications)
Various rectifiers
AC/DC motor drives
Heater controls
Light dimmers
Static switches




■Maximum Ratings

| Symbol | Item | Ratings | | | | Unit |
|---|---|---|---|---|---|---|
| | | PK25F40 PD25F40 PE25F40 KK25F40 | PK25F80 PD25F80 PE25F80 KK25F80 | PK25F120 PD25F120 PE25F120 KK25F120 | PK25F160 PD25F160 PE25F160 KK25F160 | |
| VRRM | ★Repetitive Peak Reverse Voltage | 400 | 800 | 1200 | 1600 | V |
| VRSM | ★Non-Repetitive Peak Reverse Voltage | 480 | 960 | 1300 | 1700 | V |
| VDRM | Repetitive Peak Off-State Voltage | 400 | 800 | 1200 | 1600 | V |

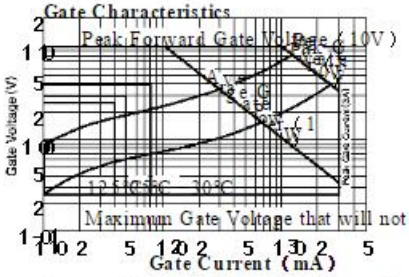
| Symbol | Item | Conditions | Ratings | Unit |
|---|---|---|---|---|
| IT (AV) | ★Average On-State Current | Single phase, half wave, 180° conduction, Tc: 95°C | 25 | A |
| IT (RMS) | ★R.M.S. On-State Current | Single phase, half wave, 180° conduction, Tc: 95°C | 39 | A |
| ITSM | ★Surge On-State Current | 1/2cycle, 50Hz/60Hz, peak Value, non-repetitive | 530/580 | A |
| I2t | ★I2t | Value for one cycle of surge current | 1400 | A2S |
| PGM | Peak Gate Power Dissipation | | 10 | W |
| PG(AV) | Average Gate Power Dissipation | | 1 | W |
| IFGM | Peak Gate Current | | 3 | A |
| VFGM | Peak Gate Voltage (Forward) | | 10 | V |
| VRGM | Peak Gate Voltage (Reverse) | | 5 | V |
| di/dt | Critical Rate of Rise of On-State Current | IG=100mA, Tj=25°C, VD=1/2VDRM, dIG/dt=0.1A/μs | 100 | A/μs |
| VISO | ★Isolation Breakdown Voltage (R.M.S.) | A.C. 1minute | 2500 | V |
| Tj | ★Operating Junction Temperature | | −40 to +125 | °C |
| Tstg | ★Storage Temperature | | −40 to +125 | °C |
| | Mounting Torque: Mounting (M5) | Recommended Value 1.5-2.5 (15-25) | 2.7 (28) | N·m (kgf·cm) |
| | Mounting Torque: Terminal (M5) | Recommended Value 1.5-2.5 (15-25) | 2.7 (28) | N·m (kgf·cm) |
| | Mass | | 170 | g |

■Electrical Characteristics

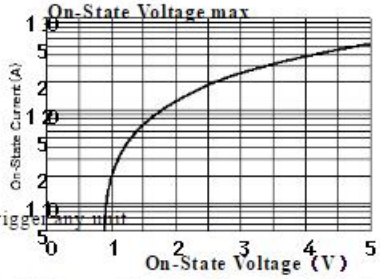
| Symbol | Item | Conditions | Ratings | Unit |
|---|---|---|---|---|
| IDRM | Repetitive Peak Off-State Current, max. | at VDRM, single phase, half wave, Tj=125°C | 10 | mA |
| IRRM | ★Repetitive Peak Reverse Current, max. | at VRRM, single phase, half wave, Tj=125°C | 10 | mA |
| VTM | ★Peak On-State Voltage, max. | On-State Current 75A, Tj=25°C, Inst. measurement | 1.55 | V |
| IGT VGT | Gate Trigger Current/Voltage, max. | Tj=25°C, IT=1A, VD=6V | 50/3 | mA/V |
| VGD | Non-Trigger Gate Voltage, min. | Tj=125°C, VD=1/2VDRM | 0.25 | V |
| tgt | Turn On Time, max. | IT=25A, IG=100mA, Tj=25°C, VD=1/2VDRM, dIG/dt=0.1A/μs | 1 | μs |
| dv/dt | Critical Rate of Rise of Off-State Voltage, min. | Tj=125°C, VD=2/3VDRM, Exponential wave | 500 | V/μs |
| IH | Holding Current, typ. | Tj=25°C | 50 | mA |
| IL | Latching Current, typ. | Tj=25°C | 100 | mA |
| Rth(j-c) | ★Thermal Impedance, max. | Junction to case | 0.78 | °C/W |

★mark: Thyristor and Diode part. No mark: Thyristor part

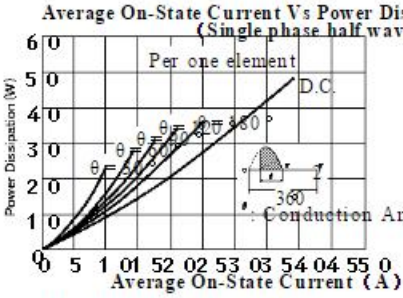
Gate Characteristics



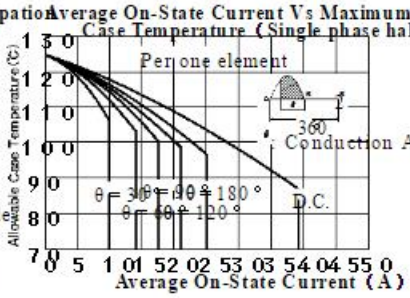

On-State Voltage max



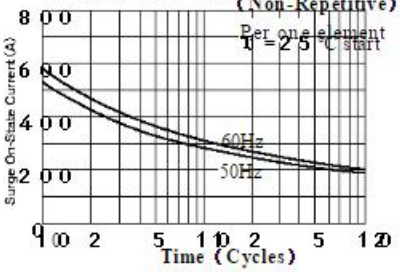

Average On-State Current Vs Power Dissipation (Single phase half wave)



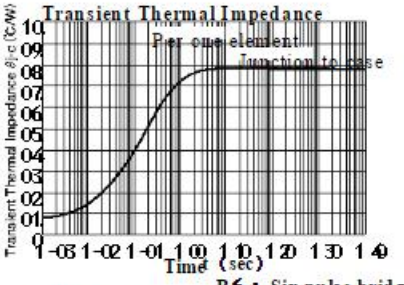

Average On-State Current Vs Maximum Allowable Case Temperature (Single phase half wave)

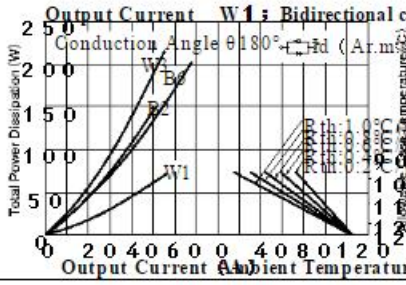
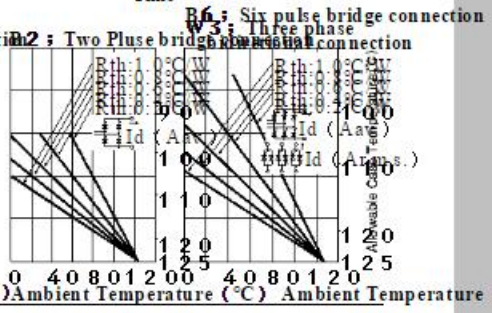



Surge On-State Current Rating (Non-Repetitive)




Transient Thermal Impedance




Output Current