

Features:

- n Isolated mounting base 3000V~
- n Pressure contact technology with Increased power cycling capability
- n Space and weight saving

Typical Applications

- n AC/DC Motor drives
- n Various rectifiers
- n DC supply for PWM inverter

| V _{RRM} , V _{DRM} | Type & Outline | |
|-------------------------------------|------------------|------------------|
| 800V | MTx1000-08-412F3 | MFx1000-08-412F3 |
| 1000V | MTx1000-10-412F3 | MFx1000-10-412F3 |
| 1200V | MTx1000-12-412F3 | MFx1000-12-412F3 |
| 1400V | MTx1000-14-412F3 | MFx1000-14-412F3 |
| 1600V | MTx1000-16-412F3 | MFx1000-16-412F3 |
| 1800V | MTx1000-18-412F3 | MFx1000-18-412F3 |
| 1800V | MT1000-18-412F3G | |

MTx stands for any type of **MTC, MTA, MTK**
 MFx stands for any type of **MFC, MFA, MFK**

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | T _j (°C) | VALUE | | | UNIT |
|--------------------------------------|--|--|---------------------|-------|------|-------|----------------------------------|
| | | | | Min | Type | Max | |
| I _{T(AV)} | Mean on-state current | 180° half sine wave 50Hz Single side cooled, T _c =65°C | 125 | | | 1000 | A |
| I _{T(RMS)} | RMS on-state current | | | | | 1570 | A |
| I _{DRM} I _{RRM} | Repetitive peak current | at V _{DRM} at V _{RRM} | 125 | | | 55 | mA |
| I _{TSM} | Surge on-state current | V _R =60%V _{RRM} , t=10ms half sine, | 125 | | | 26.0 | kA |
| I ² t | I ² t for fusing coordination | | 125 | | | 3380 | 10 ³ A ² s |
| V _{TO} | Threshold voltage | | 125 | | | 0.80 | V |
| r _T | On-state slope resistance | | | | | 0.18 | mΩ |
| V _{TM} | Peak on-state voltage | I _{TM} =3000A | 25 | | | 1.86 | V |
| dv/dt | Critical rate of rise of off-state voltage | V _{DM} =67%V _{DRM} | 125 | | | 1000 | V/μs |
| di/dt | Critical rate of rise of on-state current | Gate source 1.5A t _r ≤ 0.5μs Repetitive | 125 | | | 200 | A/μs |
| I _{GT} | Gate trigger current | V _A =12V, I _A =1A | 25 | 30 | | 200 | mA |
| V _{GT} | Gate trigger voltage | | | 0.8 | | 3.0 | V |
| I _H | Holding current | | | 10 | | 200 | mA |
| I _L | Latching current | | | | | 1500 | mA |
| V _{GD} | Non-trigger gate voltage | V _{DM} =67%V _{DRM} | 125 | | | 0.20 | V |
| R _{th(j-c)} | Thermal resistance Junction to case | Single side cooled per chip | | | | 0.048 | °C/W |
| R _{th(c-h)} | Thermal resistance case to heatsink | Single side cooled per chip | | | | 0.020 | °C/W |
| V _{iso} | Isolation voltage | 50Hz, R.M.S, t=1min, I _{iso} : 1mA(MAX) | | 3000 | | | V |
| F _m | Terminal connection torque(M12) | | | 12.0 | | 16.0 | N·m |
| | Mounting torque(M8) | | | 10.0 | | 12.0 | N·m |
| T _{vj} | Junction temperature | | | -40 | | 125 | °C |
| T _{stg} | Stored temperature | | | -40 | | 125 | °C |
| W _t | Weight | | | | 3660 | | g |
| Outline | 412F3 | | | | | | |

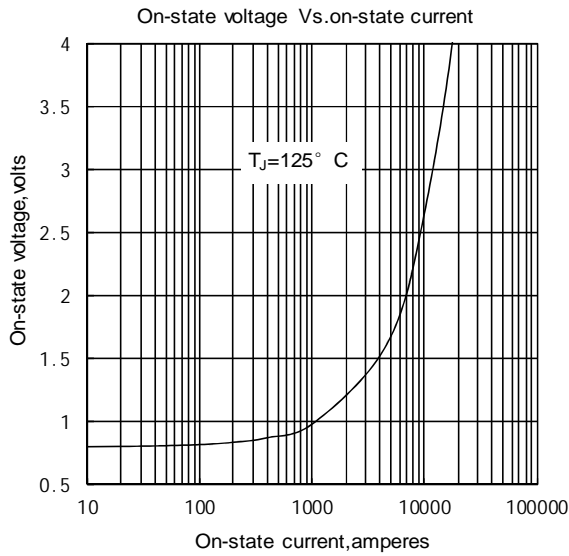


Fig.1

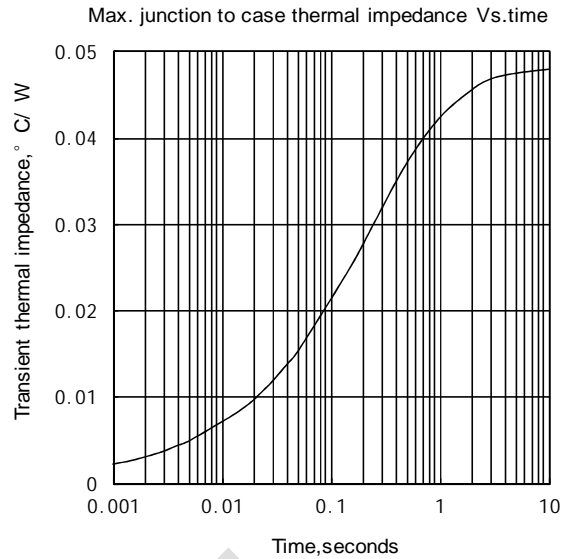


Fig.2

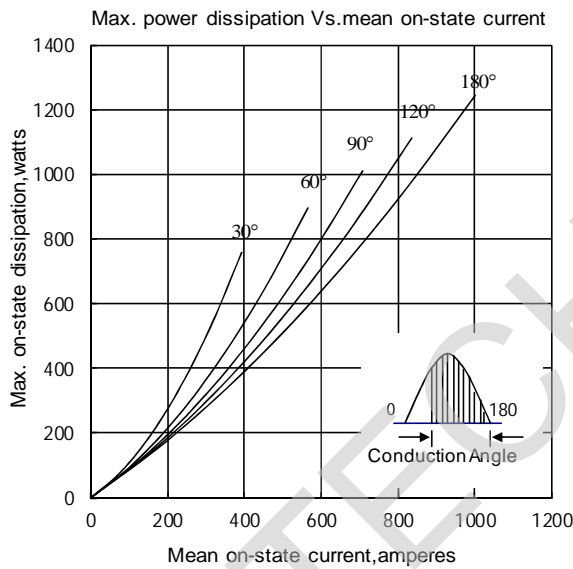


Fig.3

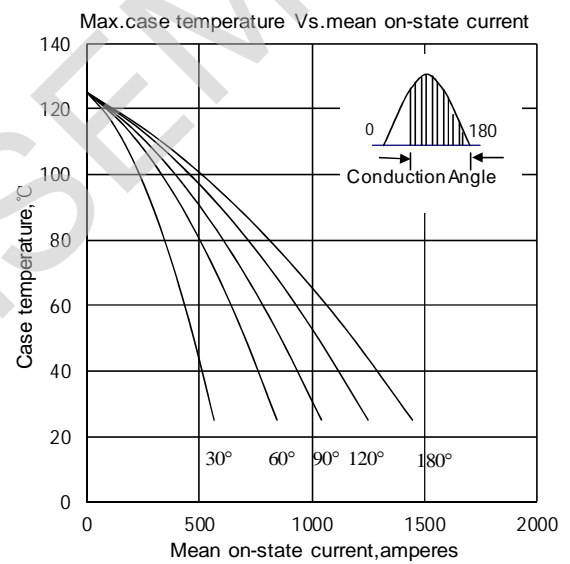


Fig.4

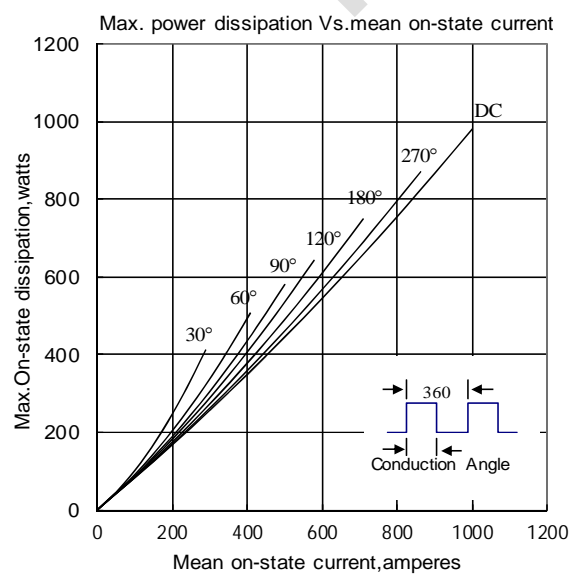


Fig.5

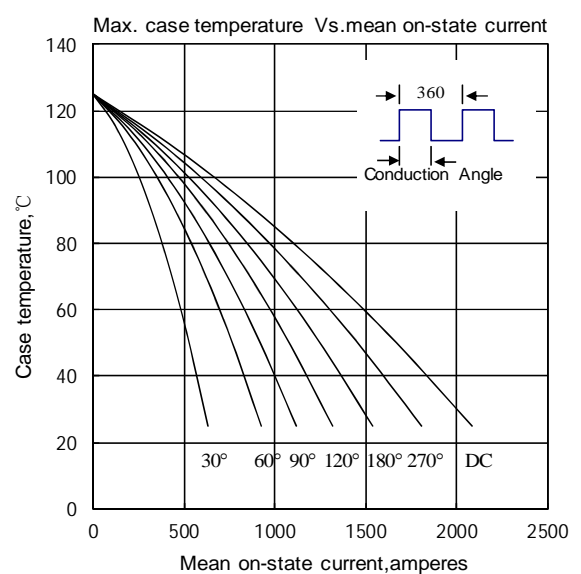


Fig.6

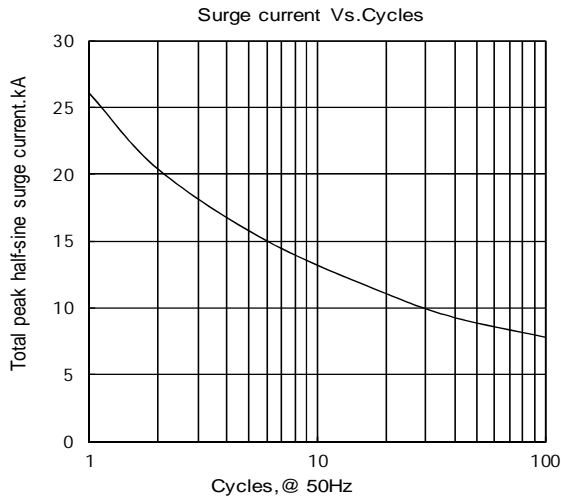


Fig.7

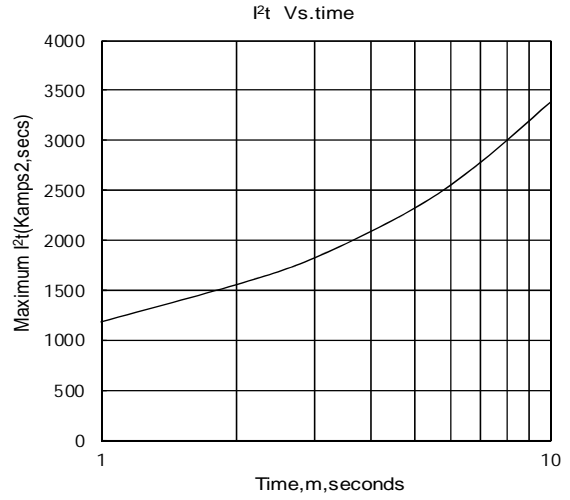


Fig.8

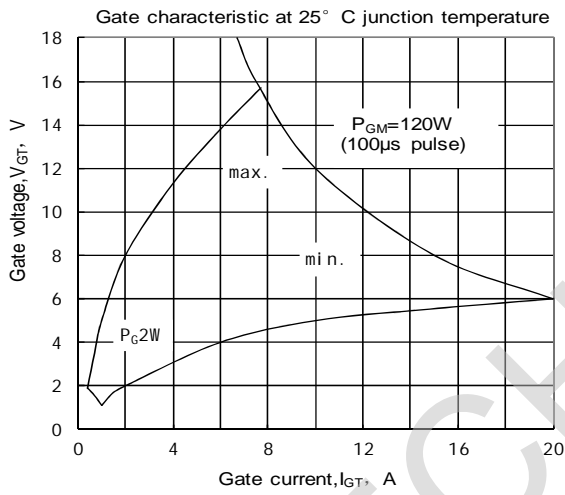


Fig.9

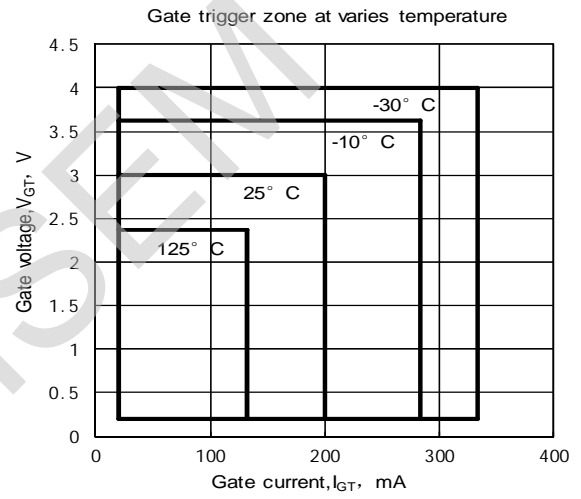
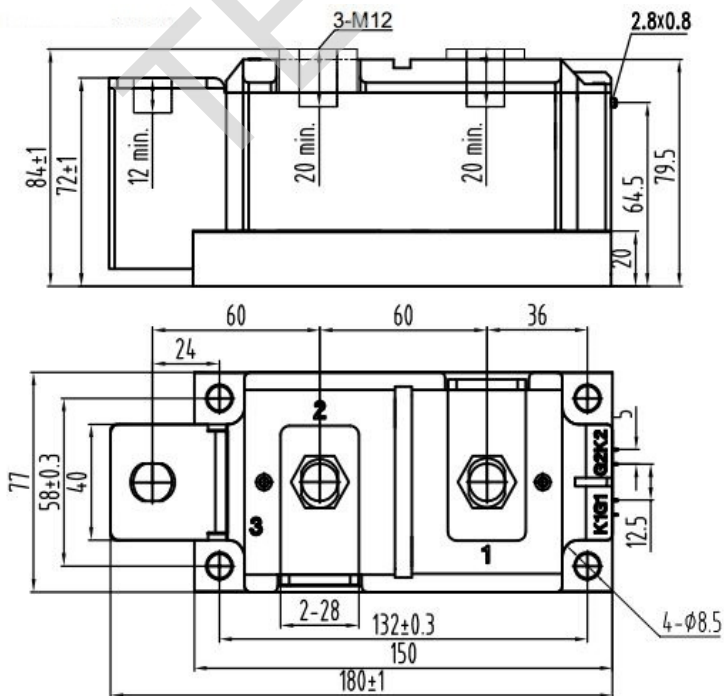
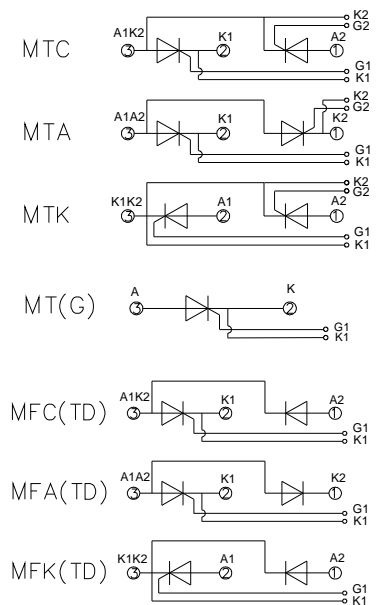


Fig.10

Outline:



Unmarked dimensional tolerance: ±0.5mm



TECHSEM reserves the right to change specifications without notice.