

MFC/MFA/MFK/MFX25A THYRISTOR/DIODE MODULE



Features

Isolated mounting base 2500V
Increased power cycling capability
Space and weight savings

| | |
|-------------------|-----------------------|
| $I_{T(AV)}$ | 25 A |
| V_{DRM}/V_{RRM} | 400-2600 V |
| I_{TSM} | 0.55KA |
| I^2T | 1.5 KA ² S |

Application

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

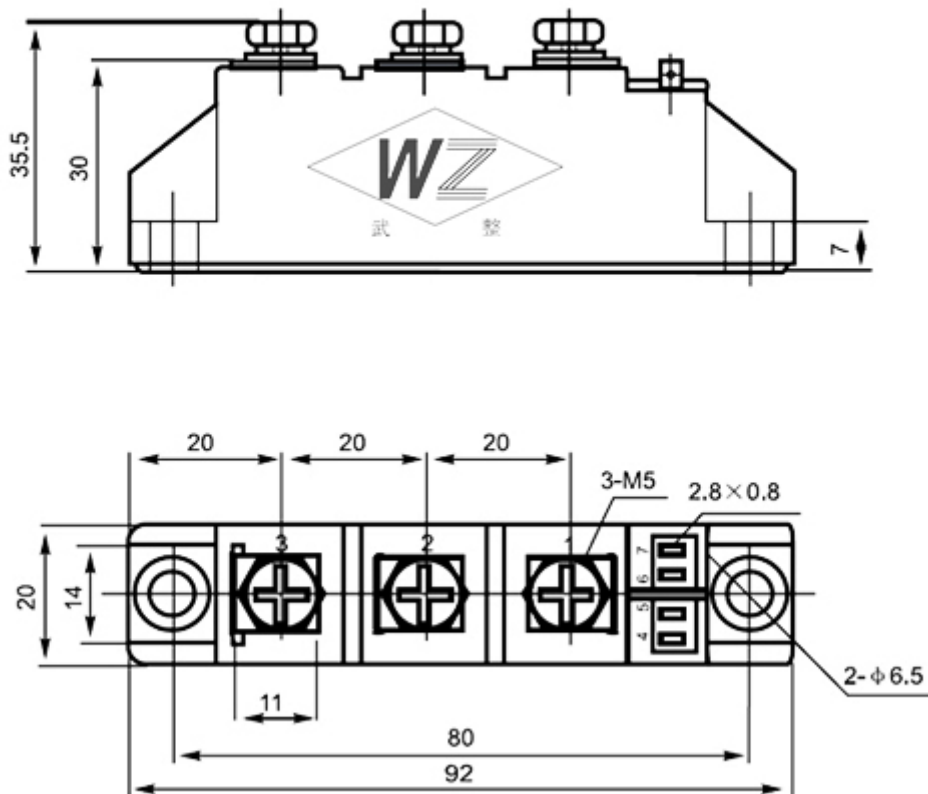
| Symb. | | parameter | Test Conditions | $T_{J(°C)}$ | Value | Unit |
|--------------------|------------------------|--|---|-------------|----------|-------------------|
| Current Ratings | $I_{T(AV)}$ | average on-state current | 180° half sine wave 50Hz Single side cooled $T_c=85°C$ | 125 | 26 | A |
| | $I_{T(RMS)}$ | RMS on-state current | | 125 | 41 | A |
| | I_{TSM} | Surge on-state current | 10ms half sine wave $V_R=0.6V_{RRM}$ | 125 | 0.55 | KA |
| | I^2t | I ² T for fusing coordination | | 125 | 1.50 | KA ² S |
| Characteristics | V_{DRM} | Repetitive peak off-state voltage | $V_{DRM} \& V_{RRM}$ tp=10ms | 125 | 400-2600 | V |
| | V_{RRM} | Repetitive peak reverse voltage | $V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100V$ | | | |
| | I_{DRM} I_{RRM} | Repetitive peak current | $V_{DM} = V_{DRM}$ $V_{RM} = V_{RRM}$ | 125 | Max.8 | mA |
| | V_{TO} | Threshold voltage | | 125 | Max.0.85 | V |
| | V_{TM} | Peak on-state voltage | $I_{TM}=80A$ | 25 | Max.1.69 | V |
| | r_T | On-state slop resistance | | 125 | Max.9.68 | mΩ |
| Dynamic Parameters | I_H | Holding current | $V_A=12V, I_A=1A$ | 25 | 20-150 | ma |
| | dv/dt | Critical rate of rise of off-state voltage | $V_{DM}=67\% V_{DRM}$ | 125 | Max.800 | V/μs |
| | di/dt | Critical rate of rise of on-state current | $I_{TM}=52A, \text{Gate pulse } t_r \leq 0.5\mu s$ $I_{GM}=1.5A$ | 125 | Max.50 | A/μs |
| Gate Parameters | I_{GT} | Gate trigger current | $V_A=12V, I_A=1A$ | 25 | 30-100 | mA |
| | V_{GT} | Gate trigger voltage | | 25 | 0.8-2.5 | V |
| | V_{GD} | Non-trigger gate voltage | $V_{DM}=67\% V_{DRM}$ | 125 | Min.0.2 | V |

Thermal & Mechanical Data

| Symb. | parameter | Test Conditions | Value | Unit |
|---------------|--------------------------------------|--------------------|-----------|------|
| $R_{th(j-c)}$ | Thermal resistance Junction to case | single side cooled | Max.0.950 | °C/W |
| $R_{th(c-h)}$ | Thermal resistance case to heat sink | single side cooled | Min.0.2 | °C/W |
| V_{iso} | isolated voltage | | Min.2500 | V |
| F_m | Thermal connection torque(M5) | | Typ.4 | N m |
| | Mounting force (M6) | | Typ.6 | N m |
| T_{stg} | Stored temperature | | -40+125 | °C |
| W_t | Weight | | 115 | g |

Outline:

M1



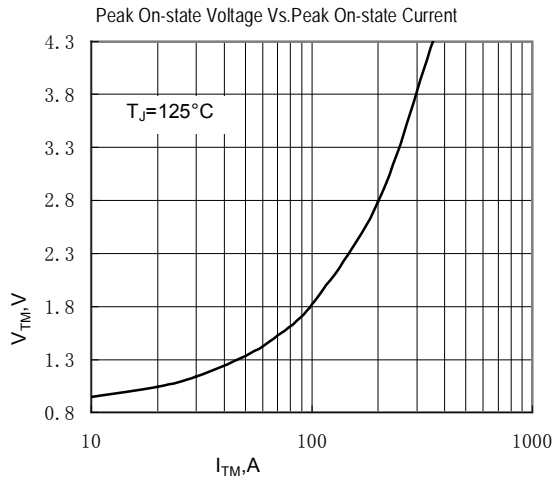


Fig.1

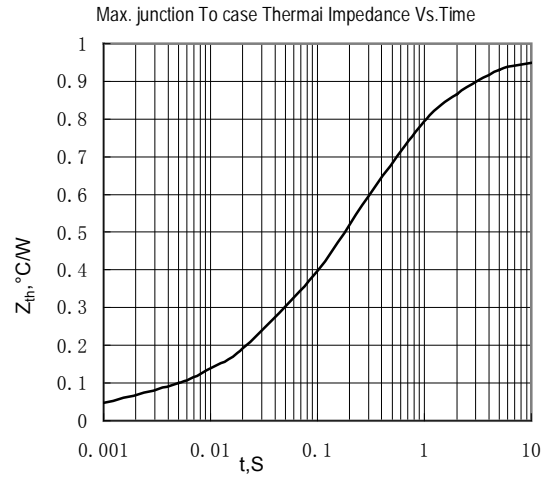


Fig.2

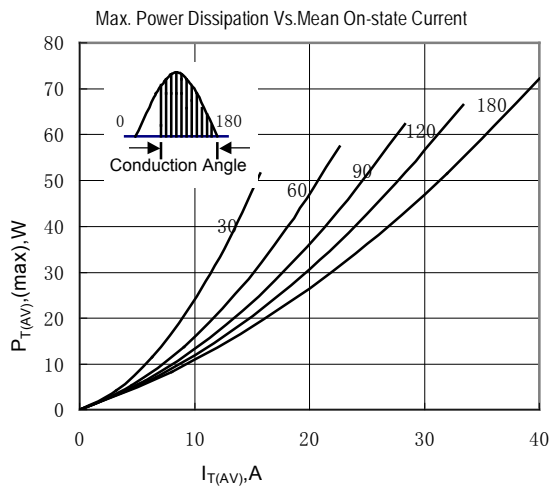


Fig.3

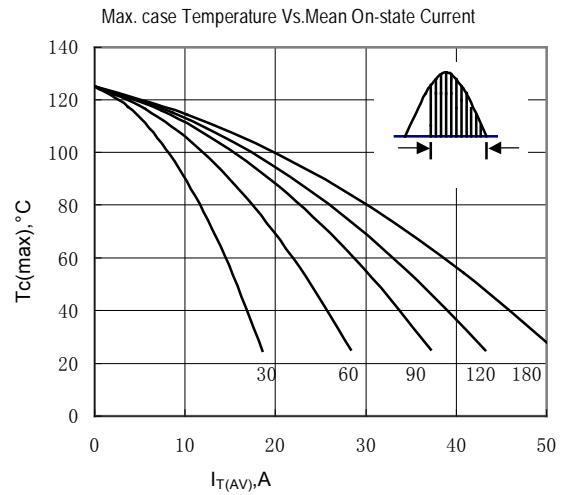


Fig.4

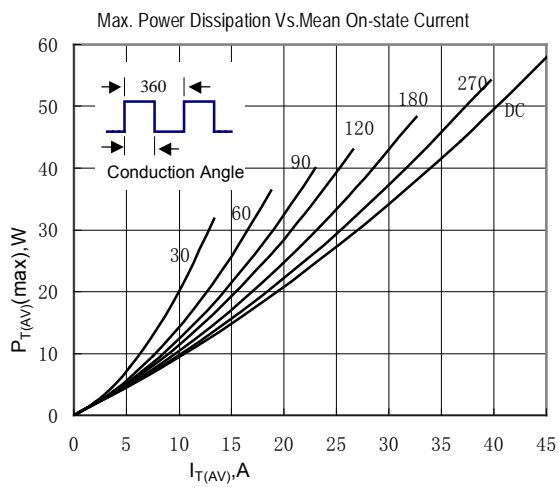


Fig.5

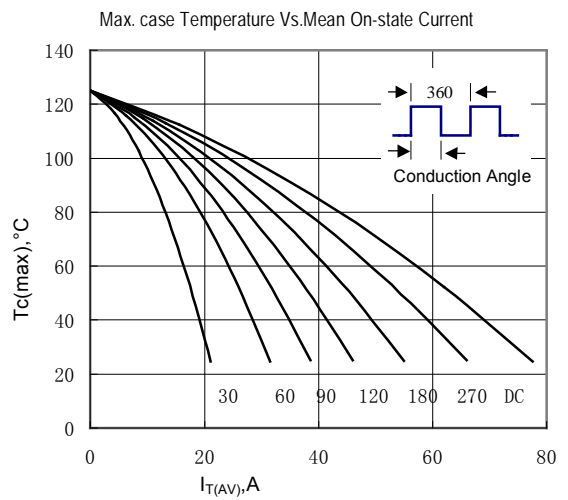


Fig.6

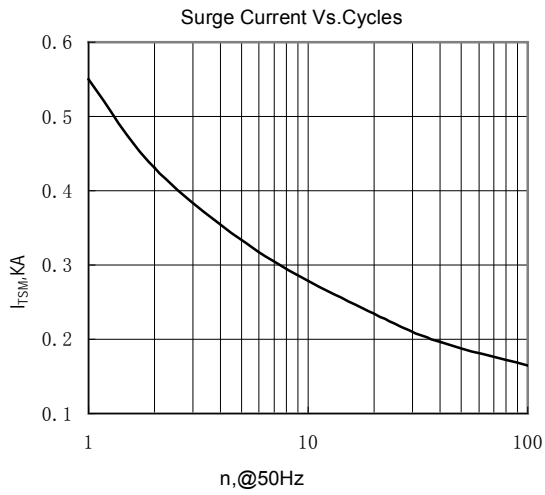


Fig.7

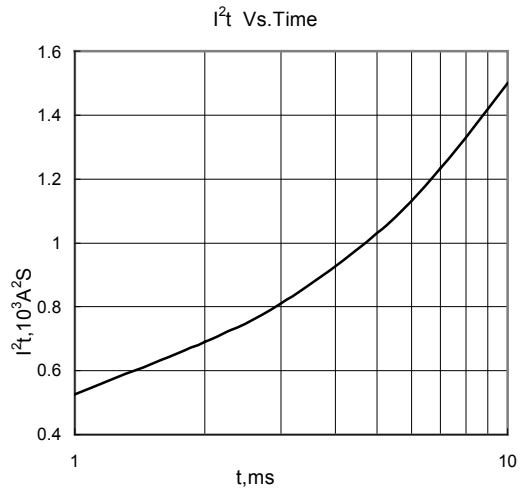


Fig.8

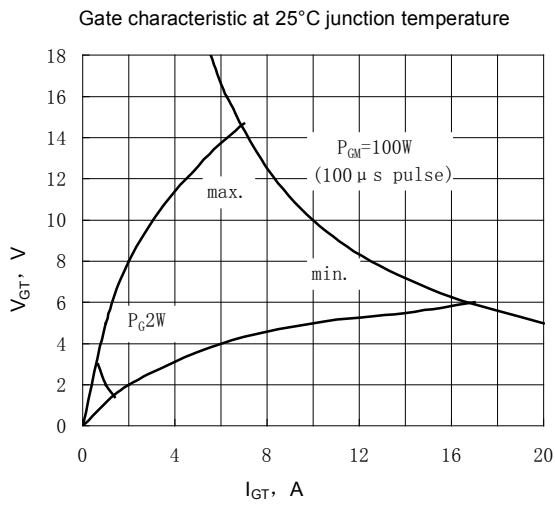


Fig.9

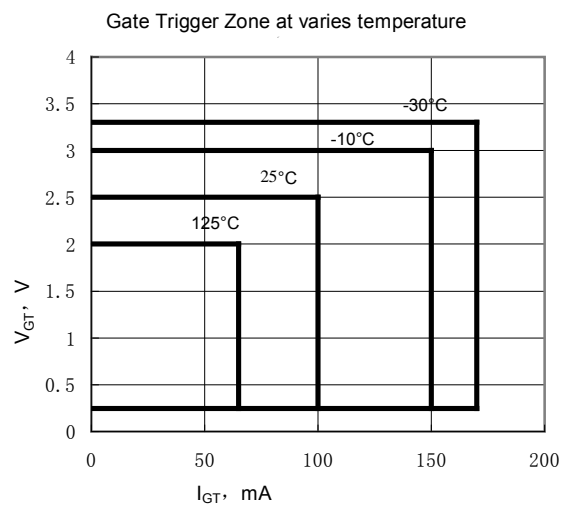


Fig.10

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