# TECHSEM

# MDC40 MDA40 MDK40 MD40
## Diode Modules

**Features:**

- Isolated mounting base 2500V~
- Pressure contact technology with Incrtased power cycling capability
- Space and weight savings

**Typical Applications**

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

| | |
|---|---|
| $I_{F(AV)}$ | 40A |
| $V_{RRM}$ | 600~1800V |
| $I_{FSM}$ | 1.0 A×$10^3$ |
| $I^2t$ | 5.0$A^2$ S*$10^3$ |

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | $T_j$(°C) | VALUE | | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | Min | Type | Max | |
| $I_{F(AV)}$ | Mean forward current | 180° half sine wave 50Hz<br>Single side cooled,$T_C$=100°C | 150 | | | 40 | A |
| $I_{F(RMS)}$ | RMS forward current | | 150 | | | 63 | A |
| $V_{RRM}$ | Repetitive peak reverse voltage | $V_{RRM}$ tp=10ms<br>$V_{RSM}$= $V_{RRM}$+100V | 150 | 600 | | 1800 | V |
| $I_{RRM}$ | Repetitive peak current | at $V_{RRM}$ | 150 | | | 8 | mA |
| $I_{FSM}$ | Surge forward current | 10ms half sine wave<br>$V_R$=0.6$V_{RRM}$ | 150 | | | 1.00 | KA |
| $I^2t$ | $I^2T$ for fusing coordination | | | | | 5.0 | $A^2s*10^3$ |
| $V_{FO}$ | Threshold voltage | | 150 | | | 0.80 | V |
| $r_F$ | Forward slop resistance | | | | | 5.57 | mΩ |
| $V_{FM}$ | Peak forward voltage | $I_{FM}$=120A | 25 | | | 1.55 | V |
| $R_{th(j-c)}$ | Thermal resistance<br>Junction to case | At $180^0$ sine, Single side cooled | | | | 0.900 | °C /W |
| $R_{th(c-h)}$ | Thermal resistance<br>case to heatsink | At $180^0$ sine, Single side cooled | | | | 0.2 | °C /W |
| $V_{iso}$ | Isolation voltage | 50Hz,R.M.S,t=1min,$I_{iso}$:1mA(max) | | 2500 | | | V |
| $F_m$ | Terminal connection torque(M5) | | | | 4 | | N·m |
| | Mounting torque(M6) | | | | 6 | | N·m |
| $T_{stg}$ | Stored temperature | | | -40 | | 125 | °C |
| $W_t$ | Weight | | | | 175 | | g |
| Outline | 224H3/215F3/223F3 | | | | | | |

Peak forward Voltage Vs.Peak forward Current

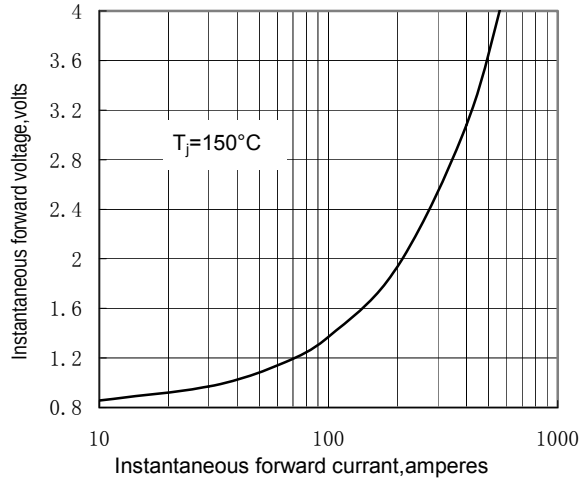



Fig.1

Max. junction To case Thermai Impedance Vs.Time

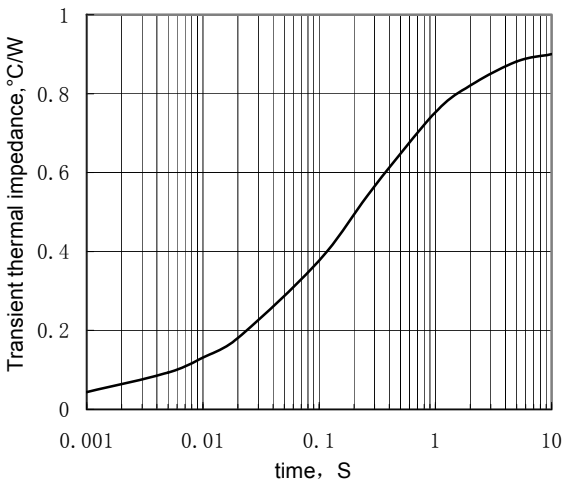



Fig.2

Max. Power Dissipation Vs.Mean forward Current

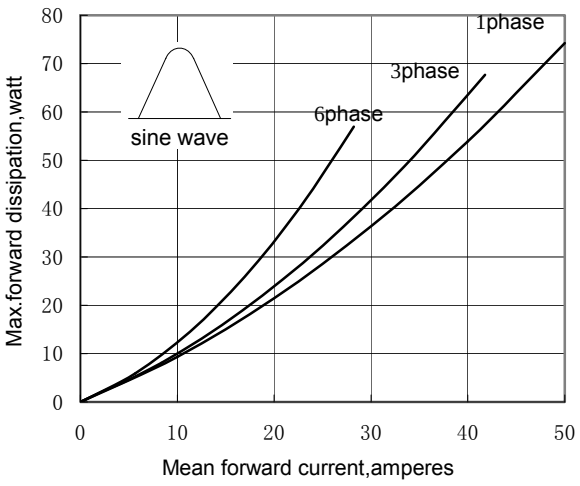



Fig.3

Max. case Temperature Vs.Mean forward Current

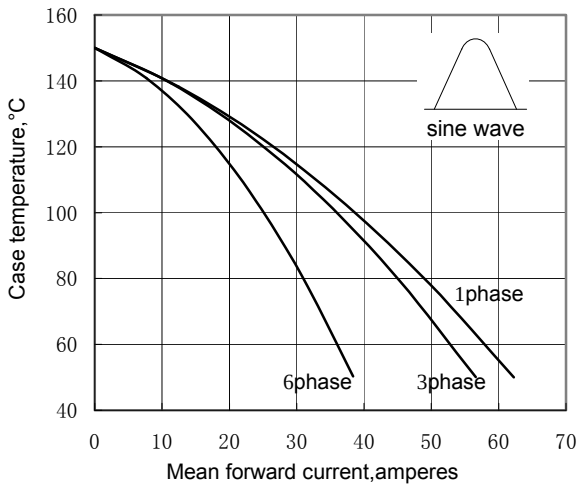



Fig.4

Max. Power Dissipation Vs.Mean forward Current

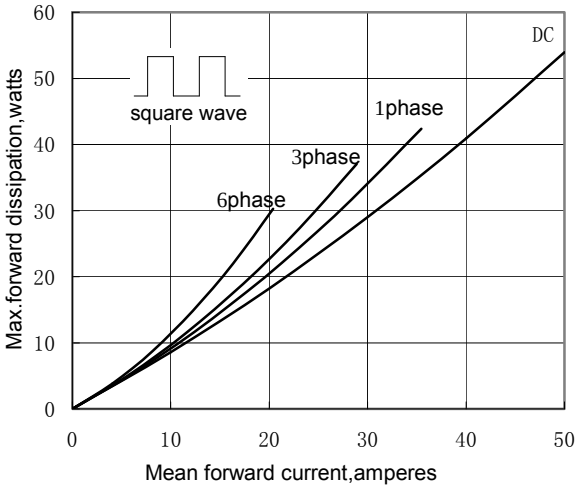



Fig.5

Max. case Temperature Vs.Mean forward Current

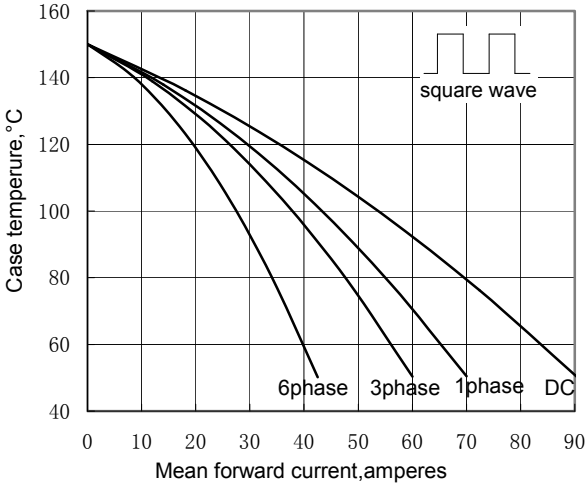



Fig.6

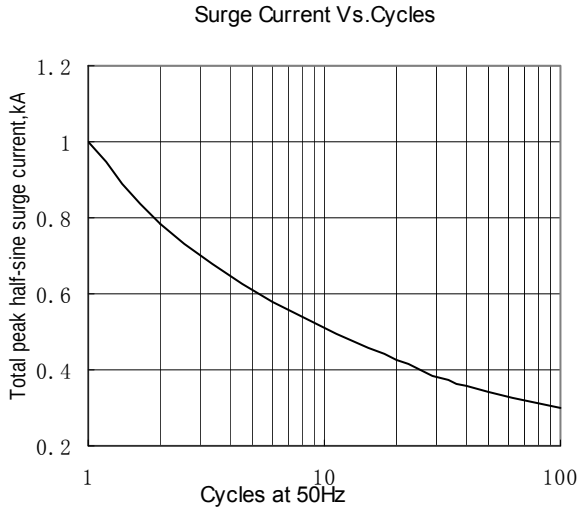



Fig.7

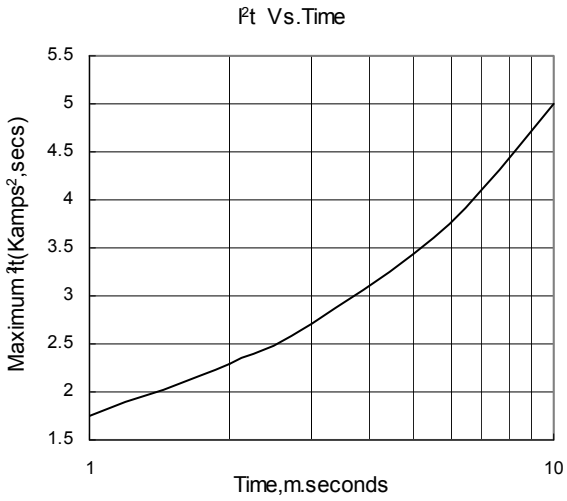
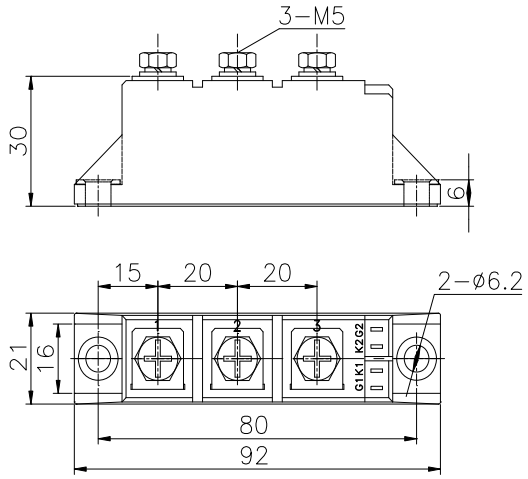



Fig.8

**Outline:**




**224H3**