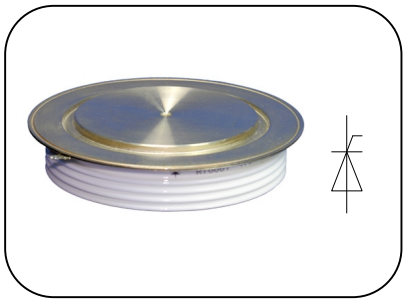


**Features**

Excellent dynamic characteristics
Fast turn-on and high di/dt
Low switching losses

**Typical Applications**

Design for inverter supply application

| **Part No. Y100KFG-KT100c(d)T** | |
|---|---|
| $I_{T(AV)}$ | **4890A** |
| $V_{DRM}$ | **2000~3000V** |
| $V_{RRM}$ | **1000~2500V** |
| $t_q$ | **25~100μs** |

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | $T_j$( C) | VALUE | | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | Min | Type | Max | |
| $I_{T(AV)}$ | Mean on-state current | 180 half sine wave 50Hz Double side cooled, $T_C$=55 C | 125 | | | 4890 | A |
| $I_{DRM}$ $I_{RRM}$ | Repetitive peak current | at $V_{DRM}$ tp=10ms at $V_{RRM}$ tp=10ms | 125 | | | 250 | mA |
| $I_{TSM}$ | Surge on-state current | 10ms half sine wave $V_R$=0.6$V_{RRM}$ | 125 | | | 63 | kA |
| $I^2t$ | $I^2t$ for fusing coordination | | | | | 19845 | $10^3A^2s$ |
| $V_{TO}$ | Threshold voltage | | 125 | | | 1.30 | V |
| $r_T$ | On-state slope resistance | | | | | 0.13 | mΩ |
| $V_{TM}$ | Peak on-state voltage | $I_{TM}$=5000A, F=90kN, 25μs≤tq≤45μs | 25 | | | 2.50 | V |
| | | $I_{TM}$=5000A, F=90kN, 46μs≤tq≤75μs | | | | 1.80 | V |
| | | $I_{TM}$=5000A, F=90kN, 76μs≤tq≤100μs | | | | 1.60 | V |
| dv/dt | Critical rate of rise of off-state voltage | $V_{DM}$=0.67$V_{DRM}$ | 125 | | | 1000 | V/μs |
| di/dt | Critical rate of rise of on-state current (Non-repetitive) | $V_{DM}$= 67%$V_{DRM}$, Gate pulse $t_r$ ≤0.5μs $I_{GM}$=1.5A | 125 | | | 1200 | A/μs |
| $Q_{rr}$ | Recovery charge | $I_{TM}$=2000A, tp=4000μs, di/dt=-20A/μs, $V_R$=100V | 125 | | 2100 | | μC |
| tq | Circuit commutated turn-off time | $I_{TM}$=2000A, tp=4000μs, $V_R$=100V dv/dt=30V/μs, di/dt=-20A/μs | 125 | 25 | | 100 | μs |
| $I_{GT}$ | Gate trigger current | $V_A$=12V, $I_A$=1A | 25 | 40 | | 250 | mA |
| $V_{GT}$ | Gate trigger voltage | | | 0.9 | | 2.5 | V |
| $I_H$ | Holding current | | | 20 | | 1000 | mA |
| $I_L$ | Latching current | | | | | 1500 | mA |
| $V_{GD}$ | Non-trigger gate voltage | $V_{DM}$=67%$V_{DRM}$ | 125 | | | 0.3 | V |
| $R_{th(j-c)}$ | Thermal resistance Junction to case | At 180 sine double side cooled Clamping force 90kN | | | | 0.0050 | C /W |
| $R_{th(c-h)}$ | Thermal resistance case to heatsink | | | | | 0.0015 | |
| $F_m$ | Mounting force | | | 81 | | 108 | kN |
| $T_{vj}$ | Junction temperature | | | -40 | | 125 | C |
| $T_{stg}$ | Stored temperature | | | -40 | | 140 | C |
| $W_t$ | Weight | | | | 2000/ 2500 | | g |
| Outline | KT100cT/ KT100dT | | | | | | |

TECHSEM

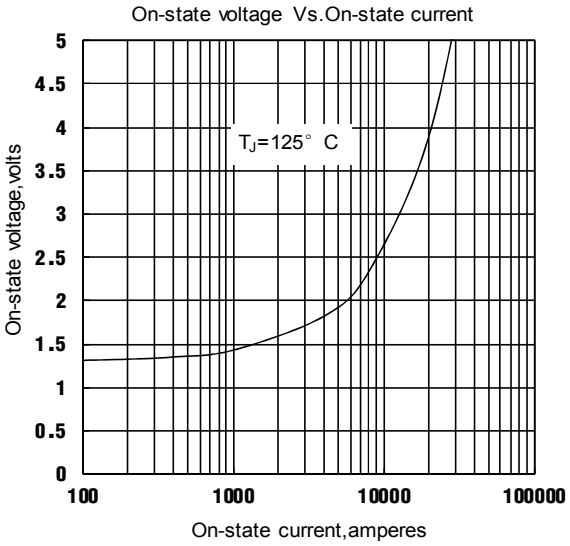



Fig.1

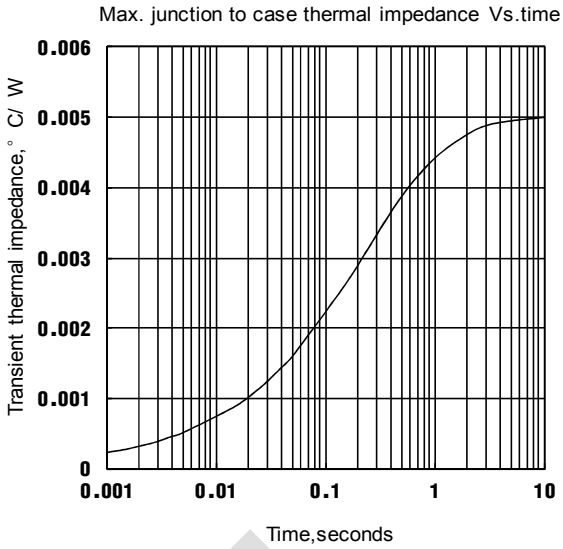



Fig.2

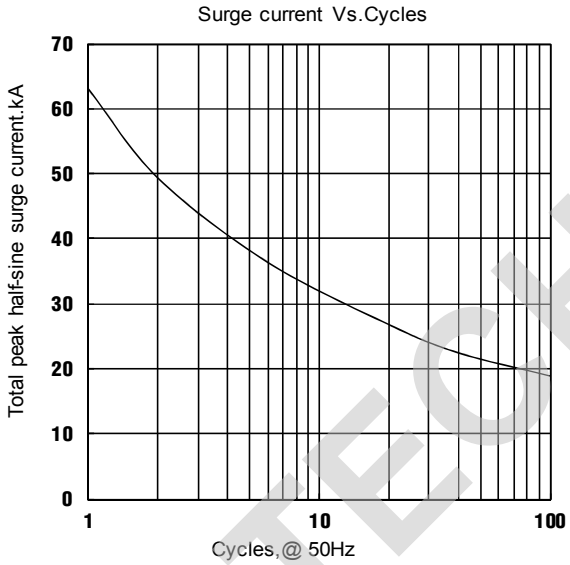



Fig.3

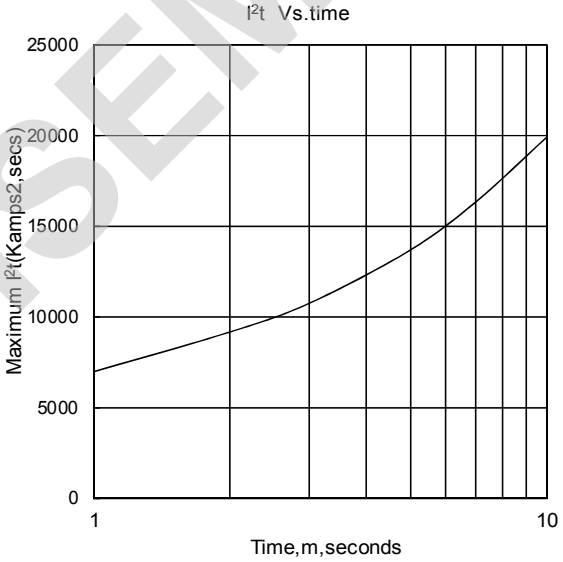



Fig.4

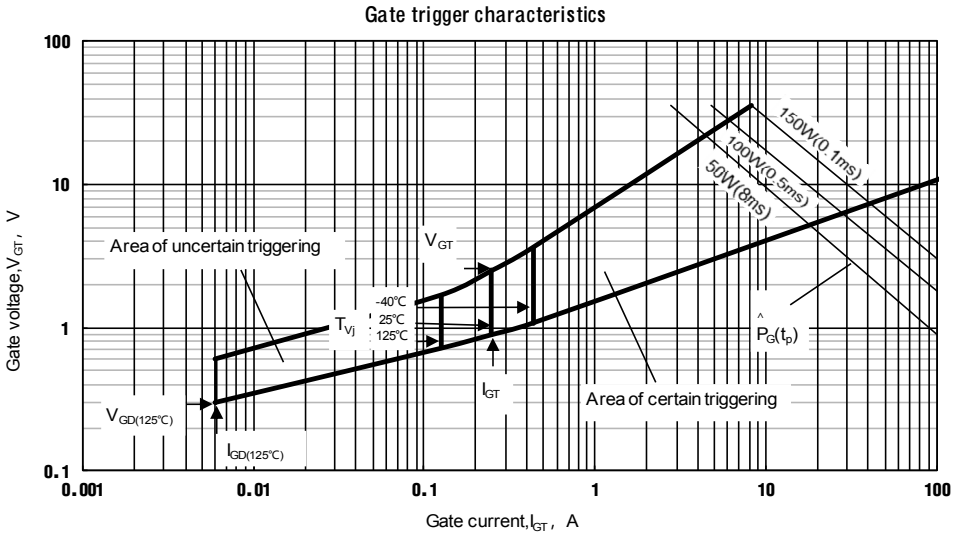
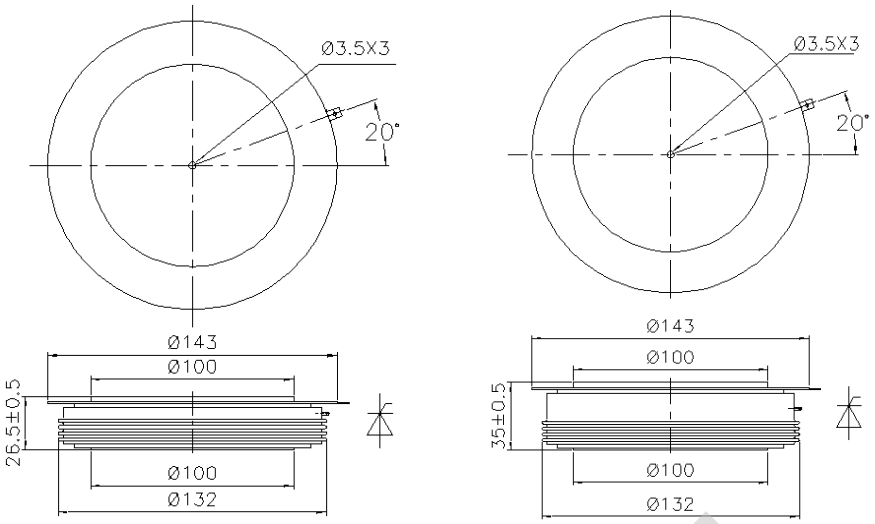



Fig.5

TECHSEM

**Outline:**




TECHSEM reserves the right to change specifications without notice.

TECHSEM