

Features :

- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Low switching losses
- Short turn-off time
- Hermetic metal cases with ceramic insulators

$I_{T(AV)}$	580A
V_{DRM}/V_{RRM}	800~1200V
t_q	10~20μs
I_{TSM}	5.4kA

**Typical Applications**

- Inductive heating
- Electronic welders
- Self-commutated inverters
- AC motor speed control
- General power switching applications

SYMBOL	CHARACTERISTIC	TEST CONDITIONS		$T_j(^{\circ}\text{C})$	VALUE			UNIT
					Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled,	$T_c=55^{\circ}\text{C}$	125			580	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms		125	800		1200	V
I_{DRM} I_{RRM}	Repetitive peak off-state current Repetitive peak reverse current	at V_{DRM} at V_{RRM}		125			30	mA
$I_{T/f}$	High frequency on-state current	F=10KHZ, $T_c=55^{\circ}\text{C}$					200	A
I_{TSM}	Surge on-state current	10ms half sine wave		125			5.4	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$					146	$\text{A}^2\text{s} \times 10^3$
V_{TO}	Threshold voltage			125			1.45	V
r_T	On-state slope resistance						0.85	m Ω
V_{TM}	Peak on-state voltage	$I_{TM}=1000\text{A}$, F=7.0kN		125			2.30	V
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=0.67V_{DRM}$		125			200	V/ μ s
di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 1000 Gate pulse $t_r \leq 0.5\mu\text{s}$ $I_{GM}=1.5\text{A}$		125			1500	A/ μ s
Q_{rr}	Recovery charge	$I_{TM}=500\text{A}$, tp=2000 μ s, di/dt=-60A/ μ s, $V_R=50\text{V}$		125		25		μ C
t_q	Circuit commutated turn-off time	$I_{TM}=500\text{A}$, tp=2000 μ s, $V_R=50\text{V}$ dv/dt=30V/ μ s, di/dt=-60A/ μ s		125	10		20	μ s
I_{GT}	Gate trigger current	$V_A=12\text{V}$, $I_A=1\text{A}$		25	30		200	mA
V_{GT}	Gate trigger voltage				0.8		2.5	V
I_H	Holding current				20		250	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	DC double side cooled Clamping force 7.0kN					0.045	$^{\circ}\text{C}/\text{W}$
$R_{th(c-h)}$	Thermal resistance case to heat sink						0.010	
F_m	Mounting force				5.3		10	kN
T_{stg}	Stored temperature				-40		140	$^{\circ}\text{C}$
W_t	Weight					80		g
Outline	P02							

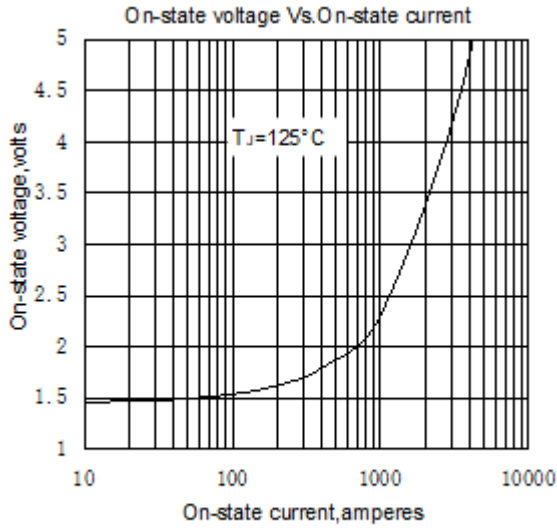


Fig. 1

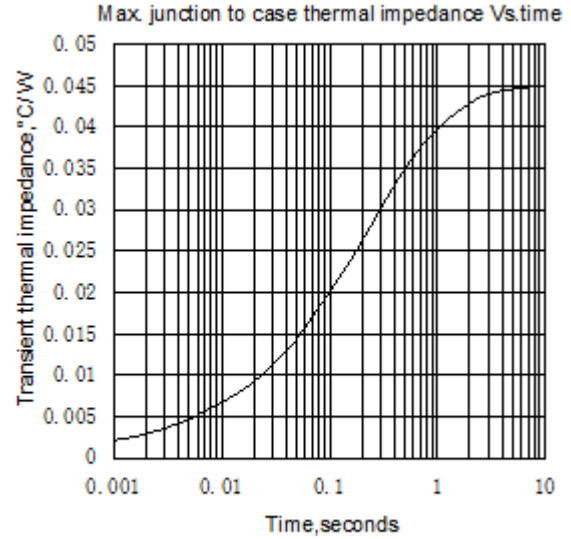


Fig. 2

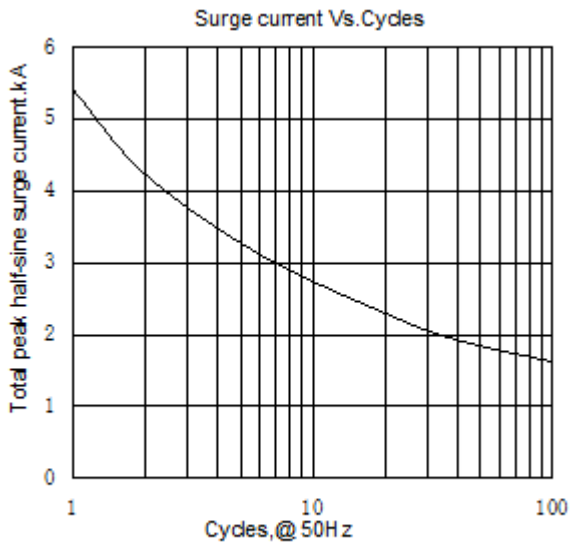


Fig. 3

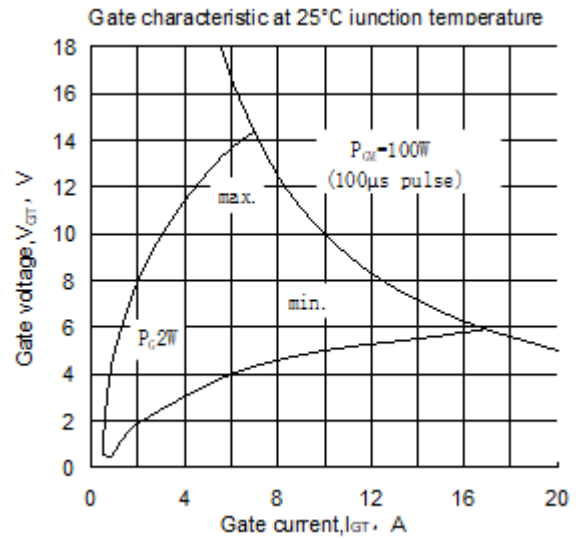


Fig. 4

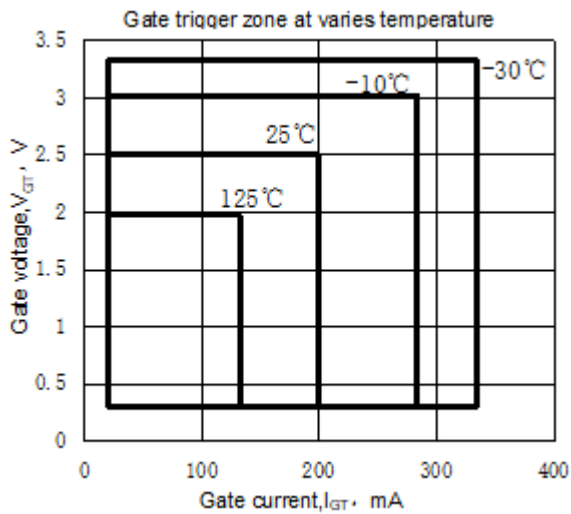
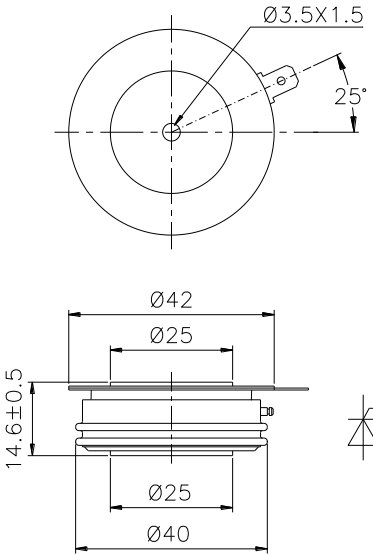


Fig. 5



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