



Power Rectifier Thyristor

Features

- Center amplifying gate
- Metal case with ceramic insulator
- Low on-state and switching losses

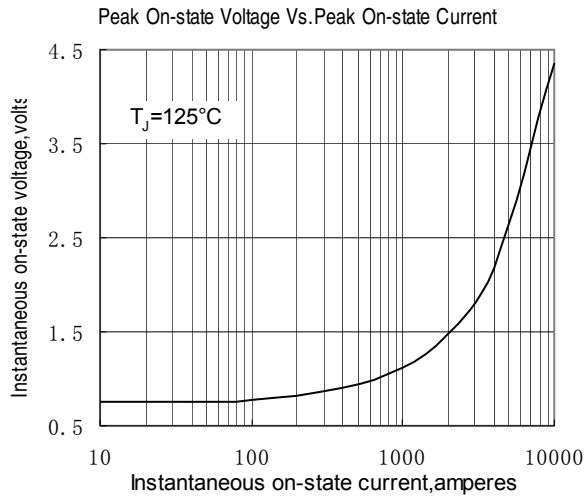
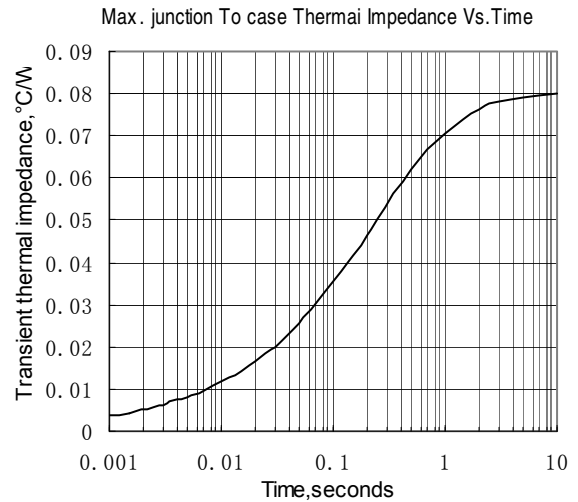
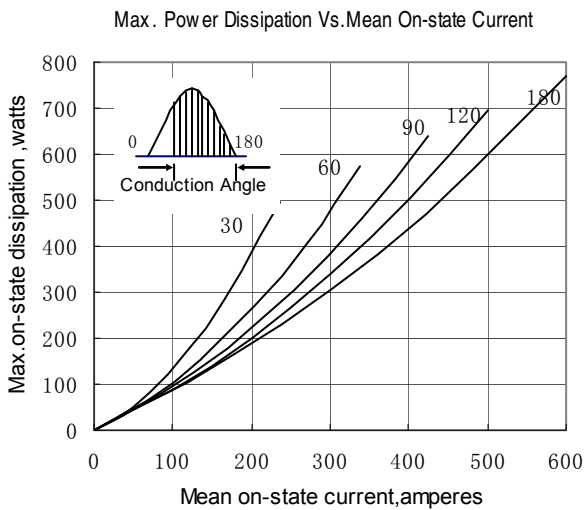
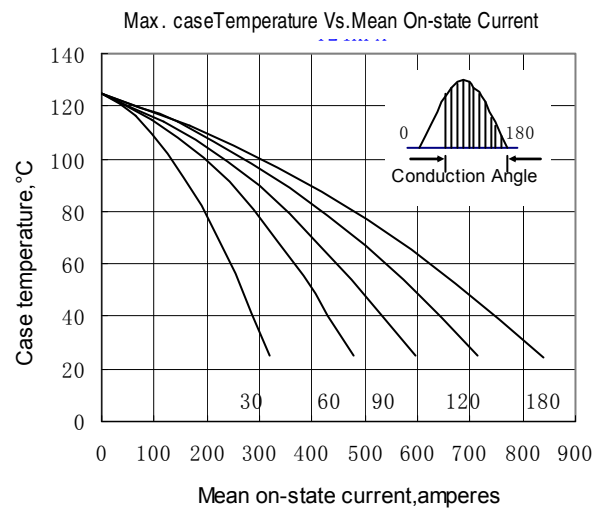
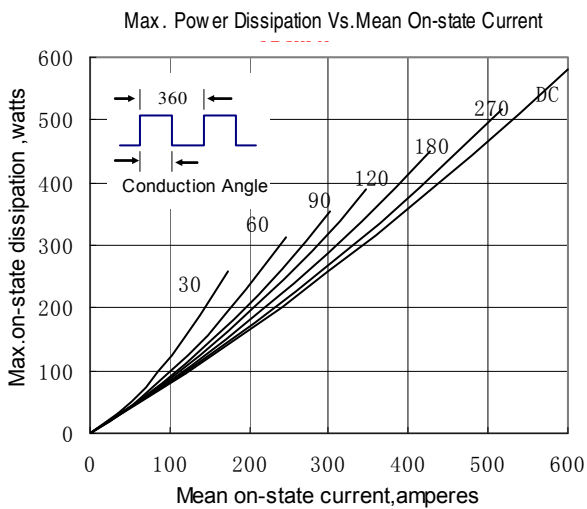
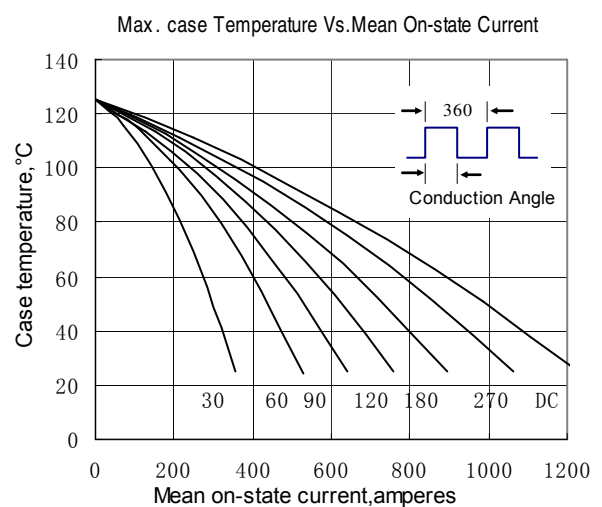
Typical Applications

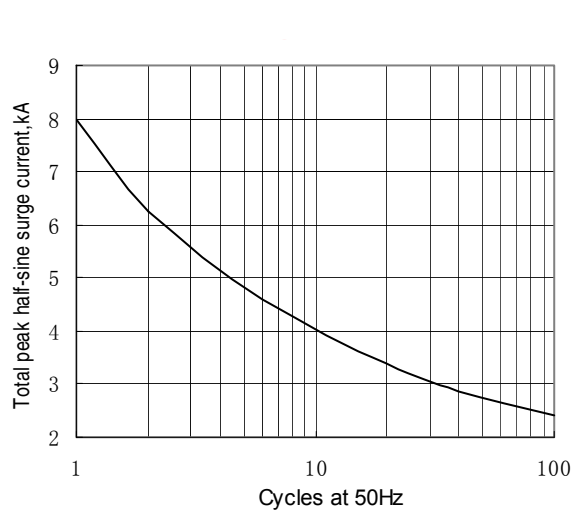
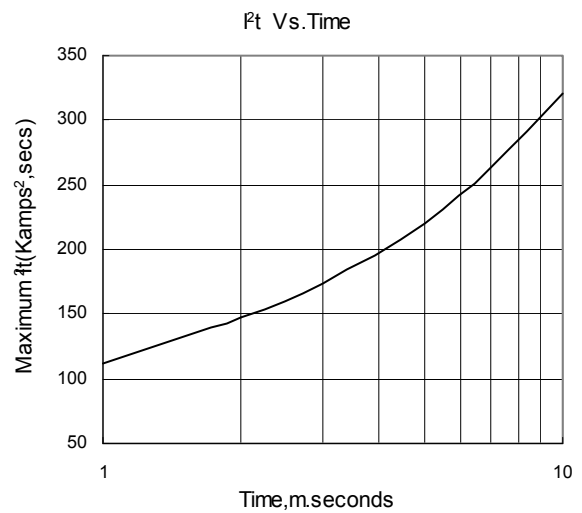
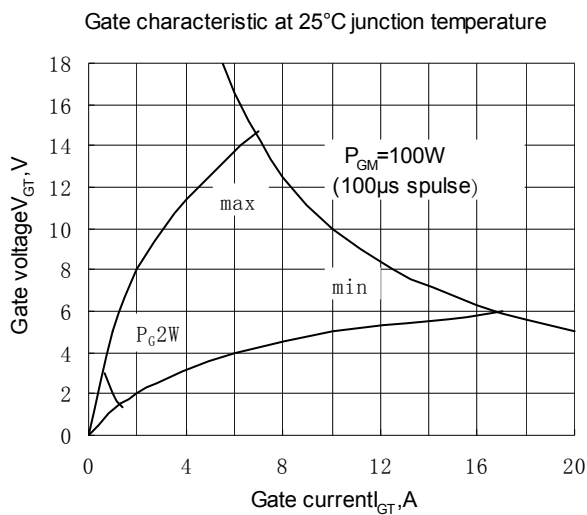
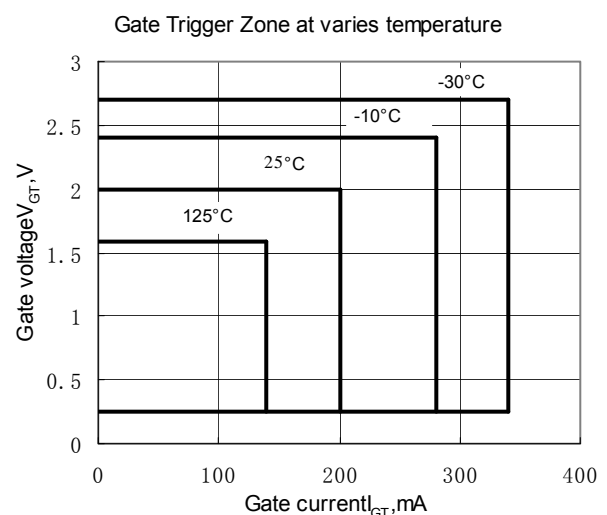
- AC controllers
- DC and AC motor control
- Controlled rectifiers

Key Parameters

$I_{T(AV)}$	550A
V_{DRM}/V_{RRM}	200~600V
I_{TSM}	8.0 kA
I^2t	320 $10^3 A^2s$

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	$T_J(^{\circ}C)$	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled	$T_C=55^{\circ}C$			660	A
			$T_C=70^{\circ}C$			550	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM} \& V_{RRM} \text{ tp}=10\text{ms}$ $V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100V$	125	200		600	V
I_{DRM} I_{RRM}	Repetitive peak current	$V_{DM} = V_{DRM}$ $V_{RM} = V_{RRM}$	125			16	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			8	kA
I^2t	I^2t for fusing coordination	$V_R = 0.6V_{RRM}$				320	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage		125			0.75	V
r_T	On-state slop resistance					0.36	mΩ
V_{TM}	Peak on-state voltage	$I_{TM}=1000A, F=5.0kN$	125			1.41	V
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=0.67V_{DRM}$	125			1000	V/μs
di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 800A, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$	125			100	A/μs
Q_{rr}	Recovery charge	$I_{TM}=600A, tp=2000\mu s, di/dt=-20A/\mu s,$ $V_R=50V$	125		600		μC
I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	30		200	mA
V_{GT}	Gate trigger voltage			0.8		2.0	V
I_H	Holding current			20		150	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 5.0kN				0.080	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heat sink					0.020	
F_m	Mounting force			3.3		5.5	kN
T_{stg}	Stored temperature			-40		140	$^{\circ}C$
W_t	Weight				60		g


Fig.1

Fig.2

Fig.3

Fig.4

Fig.5

Fig.6


Fig. 7

Fig. 8

Fig. 9

Fig. 10

Outline:

