



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

$I_{T(AV)}$	450A
V_{DRM}/V_{RRM}	400~1000V
I_{TSM}	5.0 kA
I^2t	125 10 ³ A ² S

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	125			530	A
						450	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	V_{DRM} & V_{RRM} tp=10ms V_{DSM} & $V_{RSM} = V_{DRM}$ & $V_{RRM} + 100V$	125	400		1000	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			5	kA
I^2t	I^2T for fusing coordination	$V_R = 0.6V_{RRM}$				125	A ² s*10 ³
V_{TO}	Threshold voltage		125			0.75	V
r_T	On-state slop resistance					0.7	mΩ
V_{TM}	Peak on-state voltage	$I_{TM} = 770A$, F=5.0kN	125			1.29	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 ≤ 0.5μs I _{GM} = 1.5A	125			100	A/μs
Q_{rr}	Recovery charge	$I_{TM} = 500A$, tp=2000μs, di/dt=-20A/μs, $V_R = 50V$	125		800		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	°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	°C
W_t	Weight				60		g

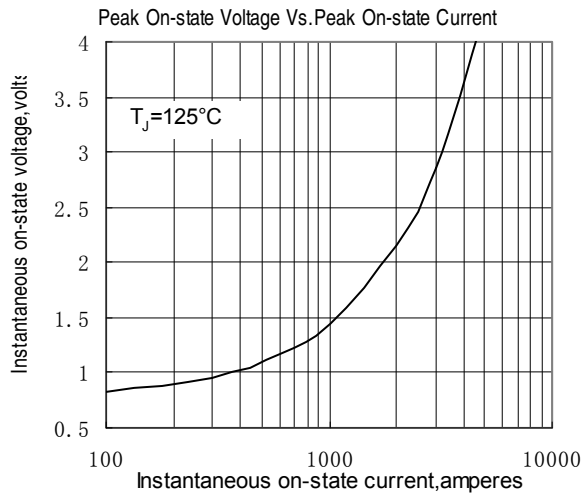


Fig.1

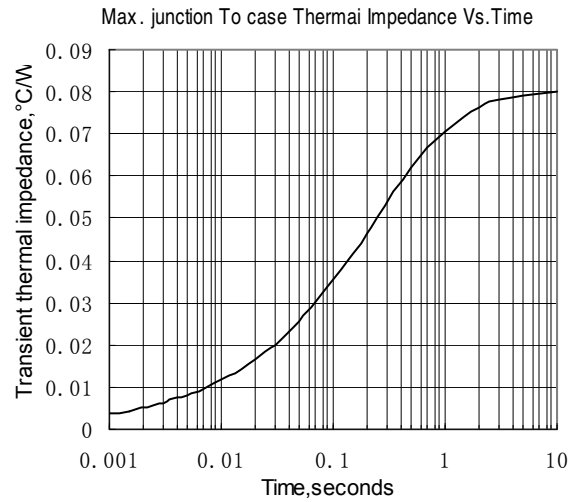


Fig.2

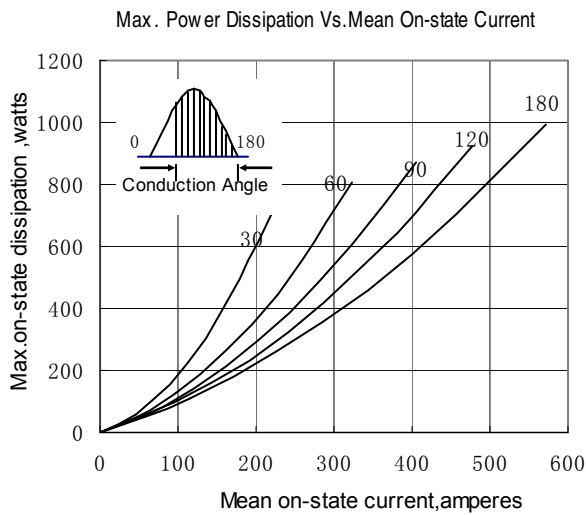


Fig.3

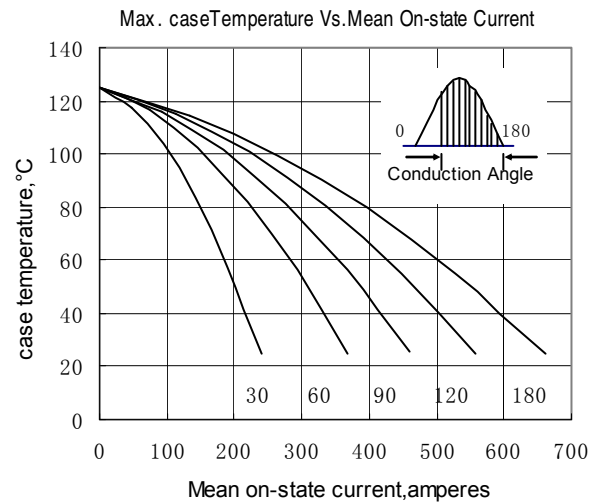


Fig.4

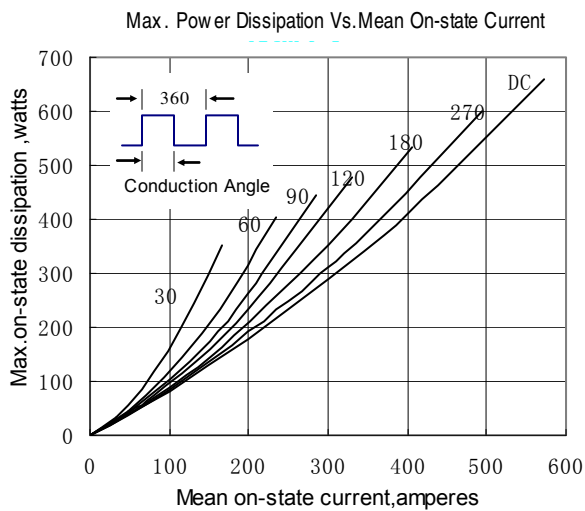


Fig.5

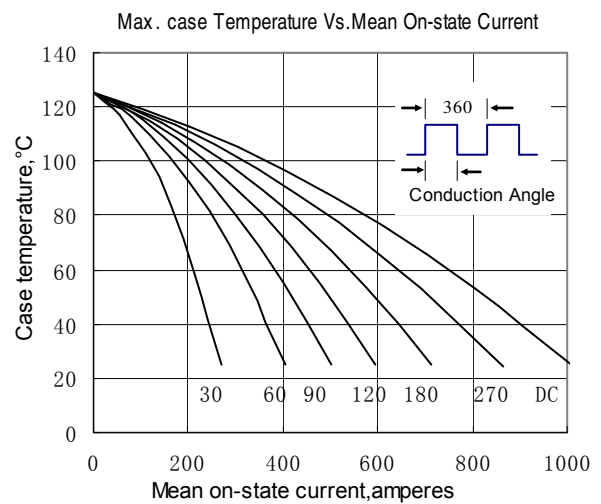


Fig.6

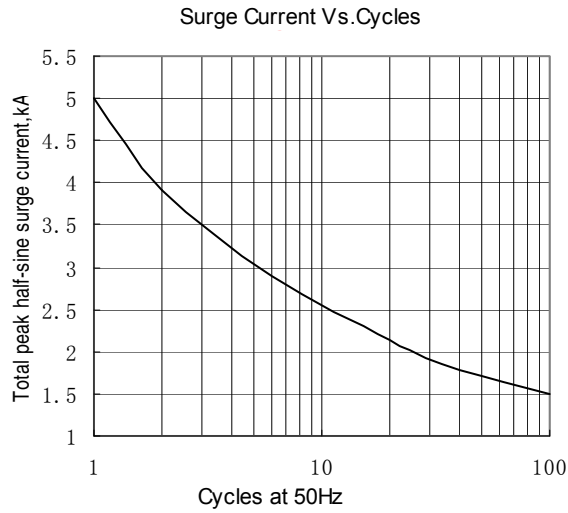


Fig.7

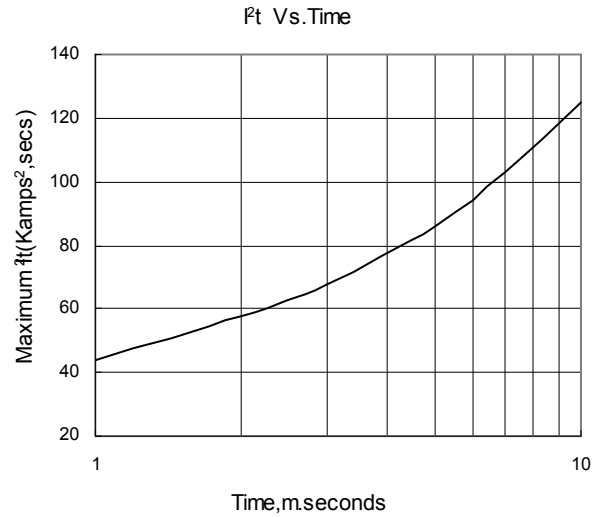


Fig.8

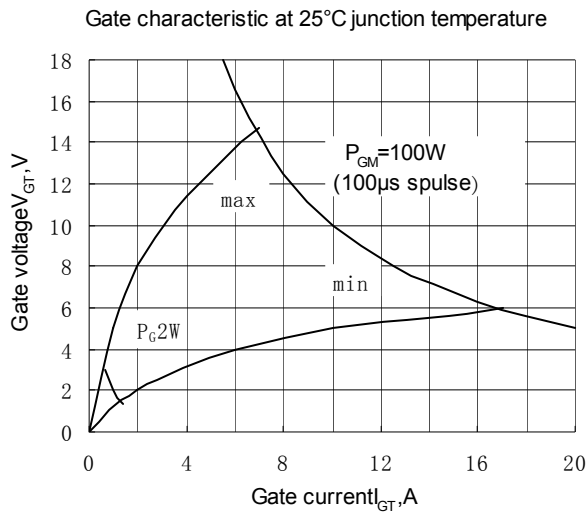


Fig.9

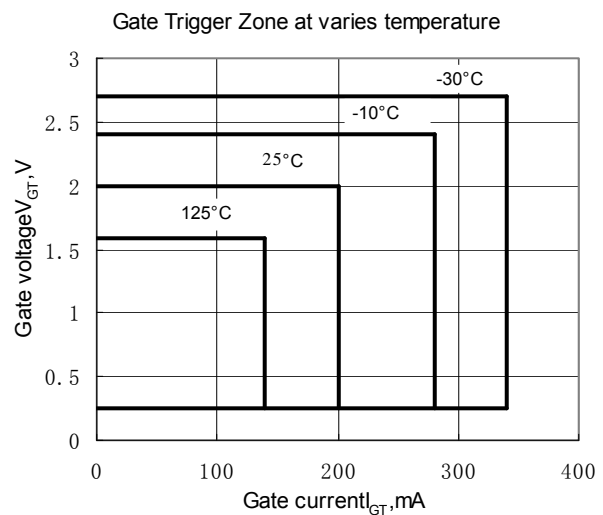


Fig.10

Outline:

