

**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

Part No. H89KPR-KT78dT

$I_{T(AV)}$ 1900A
 V_{DRM}, V_{RRM} 5600V 6000V
6500V

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, $T_C=70\text{ C}$	125			1900	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$t_p=10\text{ms}$	125	5600		6500	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			600	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			32	kA
I^2t	I^2t for fusing coordination	$V_R=0.6V_{RRM}$				5120	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage		125			1.22	V
r_T	On-state slope resistance					0.42	m Ω
V_{TM}	Peak on-state voltage	$I_{TM}=1600A, F=70kN$	25			1.90	V
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=0.67V_{DRM}$	125			2000	V/ μs
di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 3000A, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$	125			250	A/ μs
Q_{rr}	Recovery charge	$I_{TM}=2000A, t_p=4000\mu s, di/dt=-5A/\mu s,$ $V_R=100V$	125		4500		μC
I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	40		300	mA
V_{GT}	Gate trigger voltage			0.8		3.0	V
I_H	Holding current			25		250	mA
I_L	Latching current					1000	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 70.0kN				0.009	C /W
$R_{th(c-h)}$	Thermal resistance case to heatsink					0.002	C /W
F_m	Mounting force			63	70	84	kN
T_{vj}	Junction temperature			-40		125	C
T_{stg}	Stored temperature			-40		140	C
W_t	Weight				1920		g
Outline	KT78dT						

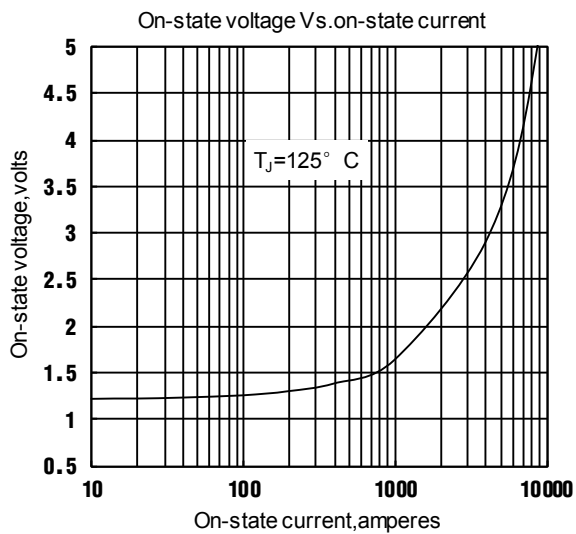


Fig.1

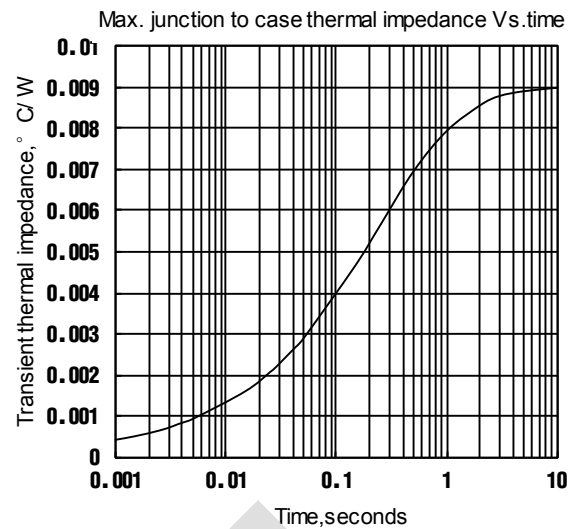


Fig.2

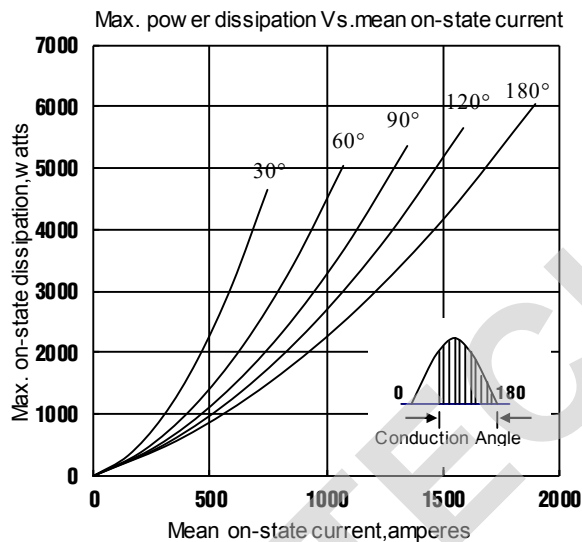


Fig.3

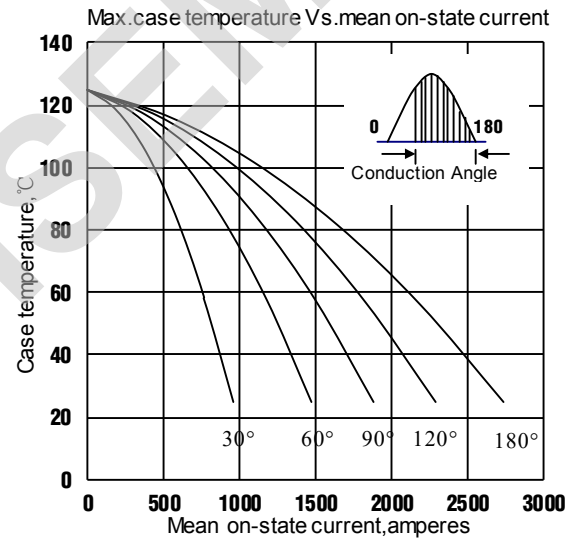


Fig.4

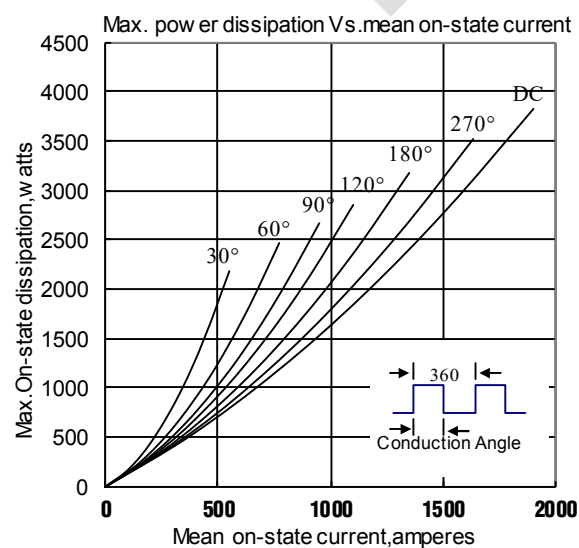


Fig.5

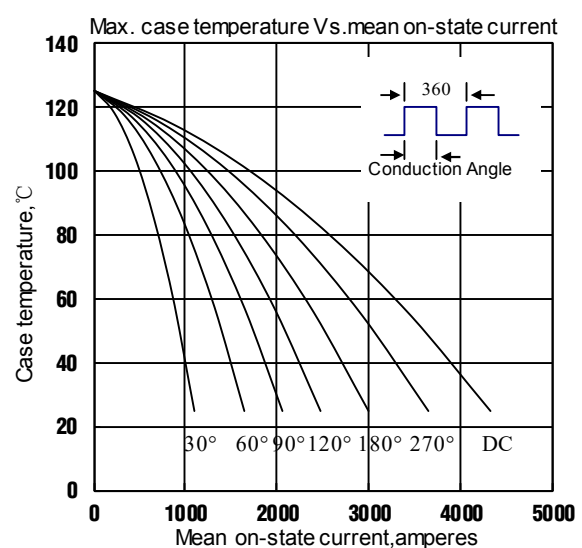


Fig.6

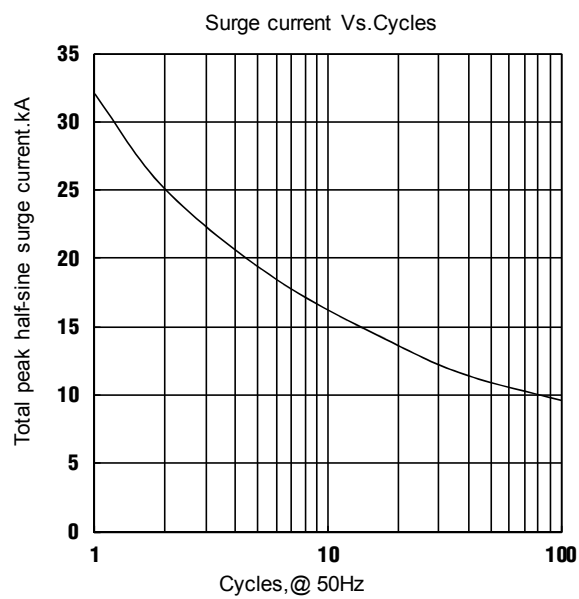


Fig.7

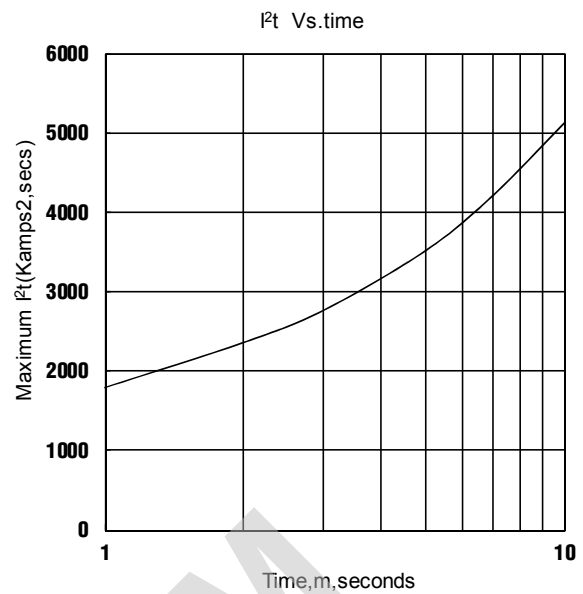


Fig.8

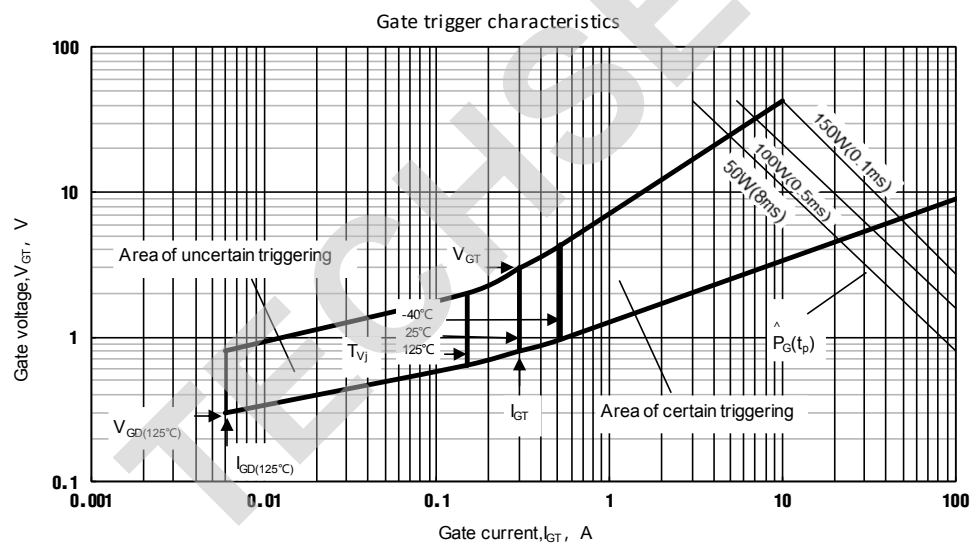
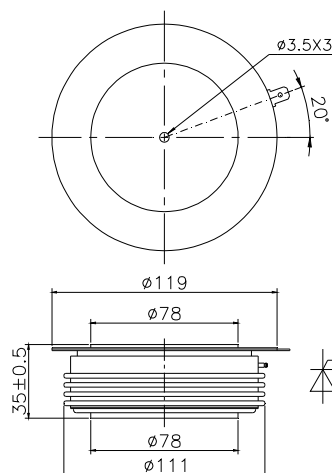


Fig.9

Outline:



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