

Features:

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

Typical Applications

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

Part No. Y55KAC-KT54cT		
I_{T(AV)}	1730A	
V_{DRM}, V_{RRM}	800V	1000V
	1200V	
t_q	10~20μs	

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			1730	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			100	mA	
I _{TSM}	Surge on-state current	10ms half sine wave	125			17	kA	
I ² t	I ² t for fusing coordination	V _R =0.6V _{RRM}				1445	A ² s*10 ³	
V _{TO}	Threshold voltage		125			1.27	V	
r _T	On-state slope resistance					0.23	mΩ	
V _{TM}	Peak on-state voltage	I _{TM} =3000A, F=26kN	25			3.20	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} to3000A, Gate pulse t _r ≤0.5μs I _{GM} =1.5A	125			1500	A/μs	
Q _{rr}	Recovery charge	I _{TM} =1000A, tp=4000μs, di/dt=-20A/μs, V _R =100V	125		90	110	μC	
t _q	Circuit commutated turn-off time	I _{TM} =1000A, tp=4000μs, V _R =100V dv/dt=30V/μs, di/dt=-20A/μs	125	10		20	μs	
I _{GT}	Gate trigger current	V _A =12V, I _A =1A	25			300	mA	
V _{GT}	Gate trigger voltage					0.8	3.0	V
I _H	Holding current					20	400	mA
I _L	Latching current						1000	mA
V _{GD}	Non-trigger gate voltage			V _{DM} =67%V _{DRM}	125			0.3
R _{th(j-c)}	Thermal resistance Junction to case	At 180° sine double side cooled Clamping force 26kN				0.018	°C/W	
R _{th(c-h)}	Thermal resistance case to heat sink					0.004		
F _m	Mounting force			21		30	kN	
T _{vj}	Junction temperature			-40		125	°C	
T _{stg}	Stored temperature			-40		140	°C	
W _t	Weight				620		g	
Outline	KT54cT							

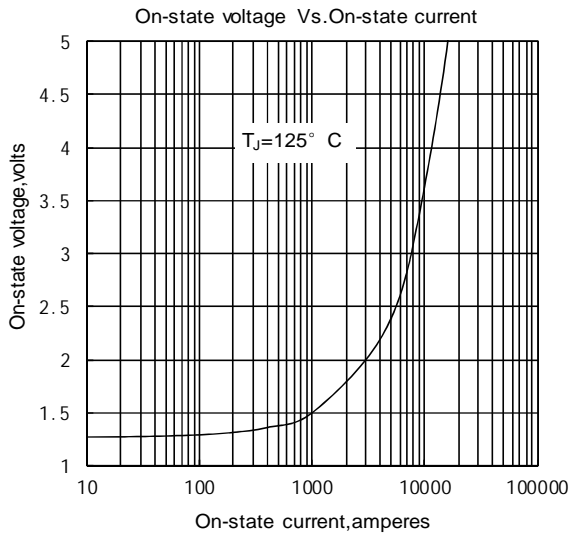


Fig. 1

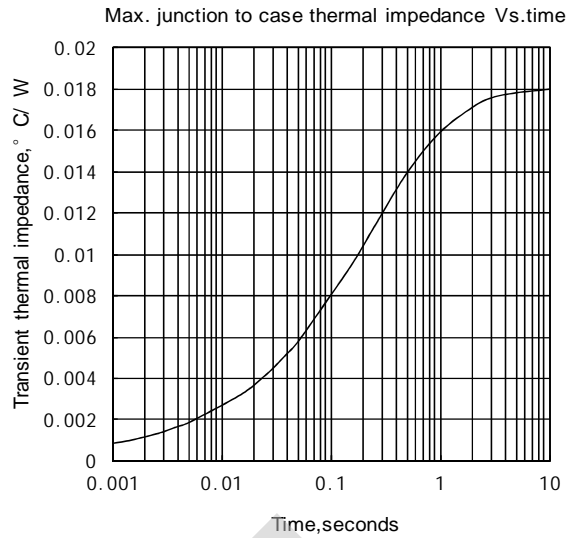


Fig. 2

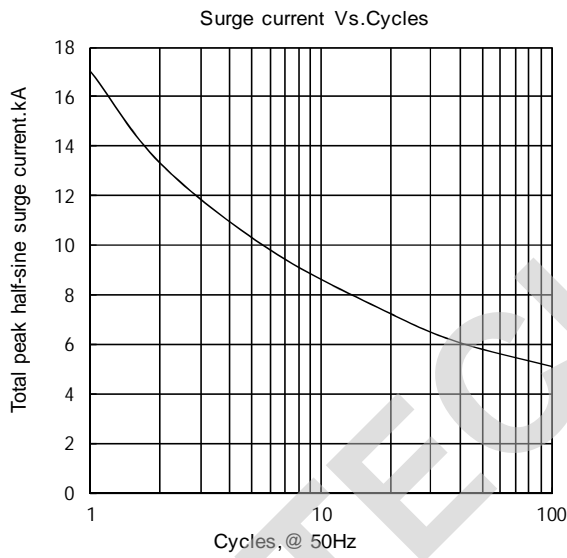


Fig. 3

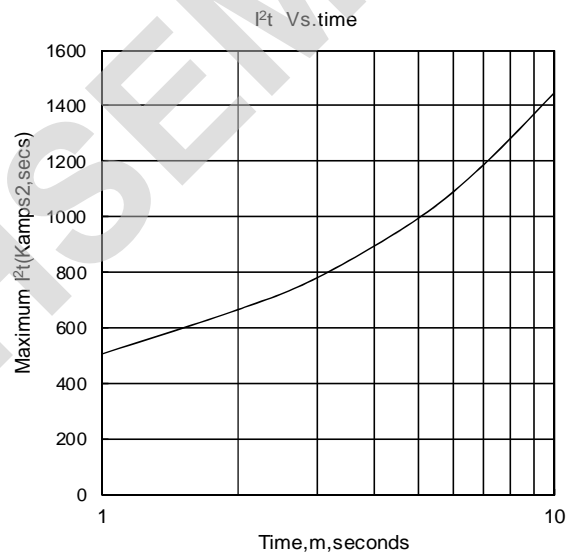


Fig. 4

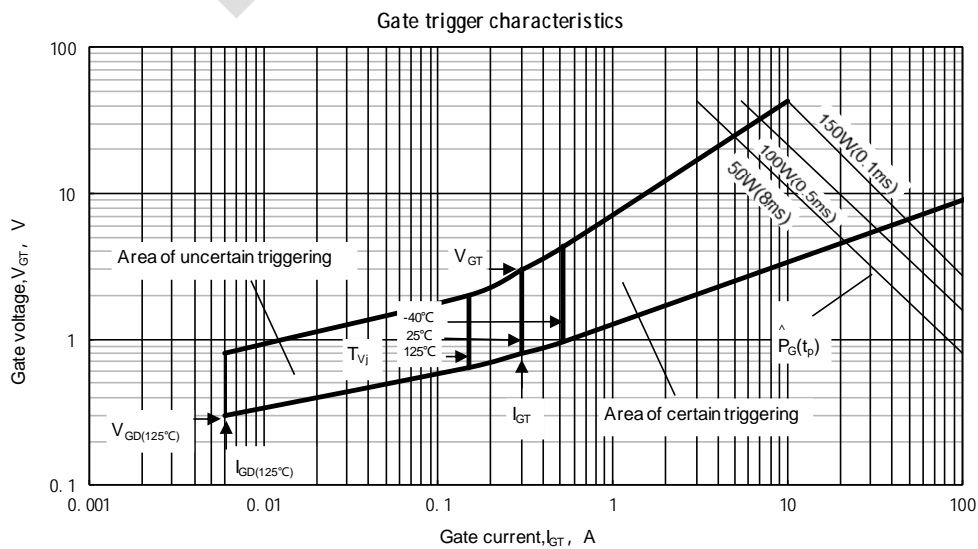
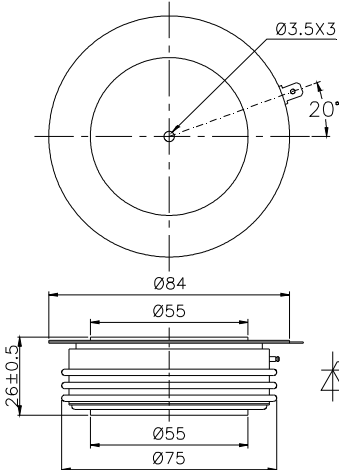


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.

