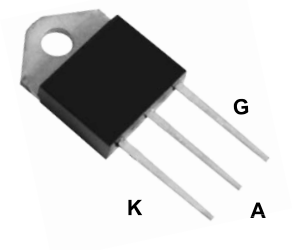
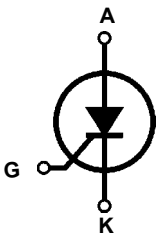
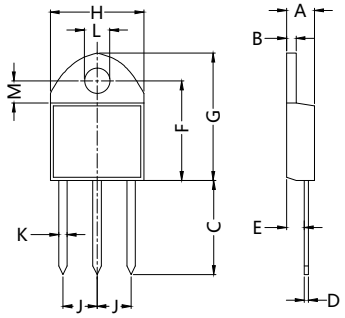
STO875

Discrete Thyristors (Isolated)







Dim.	Millimeter	
	Min.	Max.
A	4.40	4.70
B	1.45	1.65
C	14.50	16.10
D	0.45	0.80
E	2.60	2.95
F	15.80	17.00
G	20.10	21.20
H	15.00	15.80
J	5.30	5.75
K	1.25	1.55
□L	4.00	4.25
M	3.45	3.75

K=Cathode, A=Anode, G=Gate

	V_{RRM} V	V_{RSM} V
STO875	800	900

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS} I_{TAVM}	$T_{VJ}=T_{VJM}$ $T_C=75°C$; 180°sine		75 48	A
I_{TSM}	$T_{VJ}=45°C$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	540 580	A
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	480 500	
i^2t	$T_{VJ}=45°C$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1350 1300	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1050 1030	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ f=50Hz, t_p=200us $V_D=2/3V_{DRM}$ I_G=0.3A di_G/dt=0.3A/us	repetitive, I_T=40A non repetitive, $I_T=I_{TAVM}$	150 500	A/us
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM}$; $R_{GK}=\infty$; method 1 (linear voltage rise)	$V_{DR}=2/3V_{DRM}$	1000	V/us
P_{GM}	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$	t_p=30us t_p=300us	10 5	W
P_{GAV}			0.5	W
V_{RGM}			10	V
T_{VJ} T_{VJM} T_{stg}			-40...+140 140 -40...+125	°C
V_{ISOL}	50/60Hz, RMS	t=1minute, leads-to-tab	2500	V~
M_d F_c	Mounting torque (M3) Mounting force with clip		0.8...1.2 20...120	Nm N
Weight			6	g

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Symbol	Test Conditions	Characteristic Values	Unit
I_R, I_D	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$; $V_D=V_{DRM}$	5	mA
V_T	I_T=75A; T_{VJ}=25°C	1.60	V
V_{TO}	For power-loss calculations only (T_{VJ}=125°C)	0.85	V
r_T		11	mΩ
V_{GT}	V_D=6V; T_{VJ}=25°C T_{VJ}=-40°C	1.5 1.6	V
I_{GT}	V_D=6V; T_{VJ}=25°C T_{VJ}=-40°C	100 200	mA
V_{GD}	$T_{VJ}=T_{VJM}$; V_D=2/3V_{DRM}	0.2	V
I_{GD}		10	mA
I_L	T_{VJ}=25°C; t_p=10us; I_G=0.3A; di_G/dt=0.3A/us	150	mA
I_H	T_{VJ}=25°C; V_D=6V; R_{GK}=∞	100	mA
t_{gd}	T_{VJ}=25°C; V_D=1/2V_{DRM} I_G=0.3A; di_G/dt=0.3A/us	2	us
R_{thJC}	DC current	0.62	K/W
R_{thJH}	DC current	0.82	K/W
a	Max. acceleration, 50 Hz	50	m/s^2

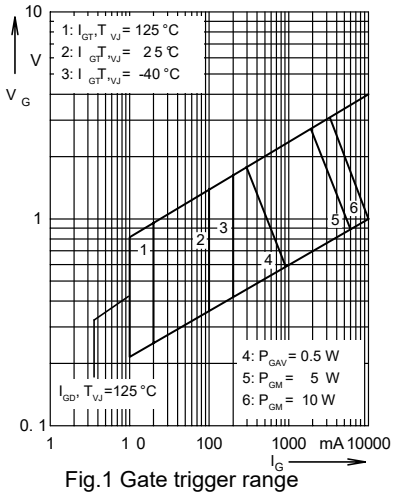

Fig.1 Gate trigger range

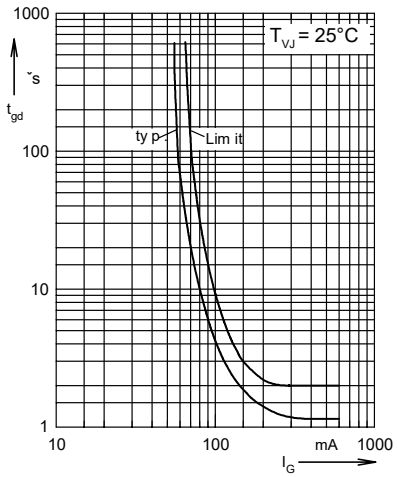

Fig.2 Gate controlled delay time t_{gd}

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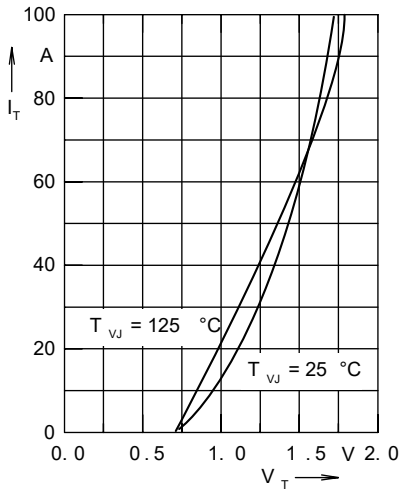

Fig.3 Forward characteristics

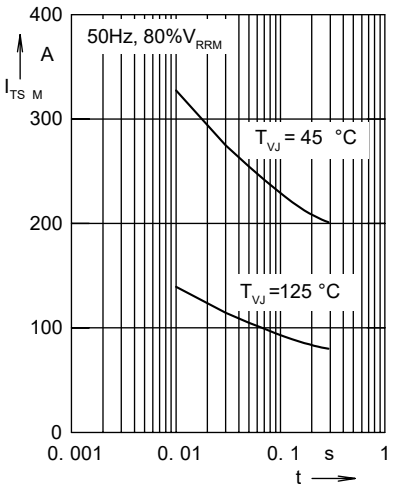

Fig.4 Surge overload current
I_{TSM} : crest value, t: duration

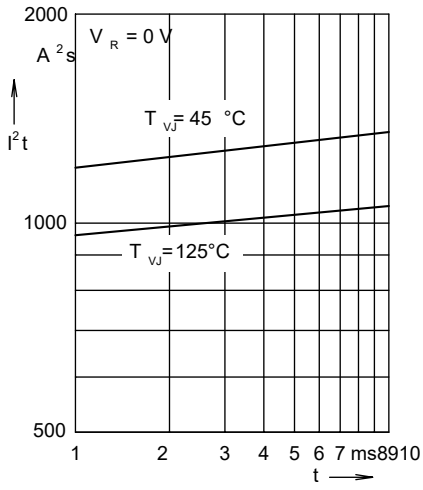

Fig.5 I^2t versus time (1-10 ms)

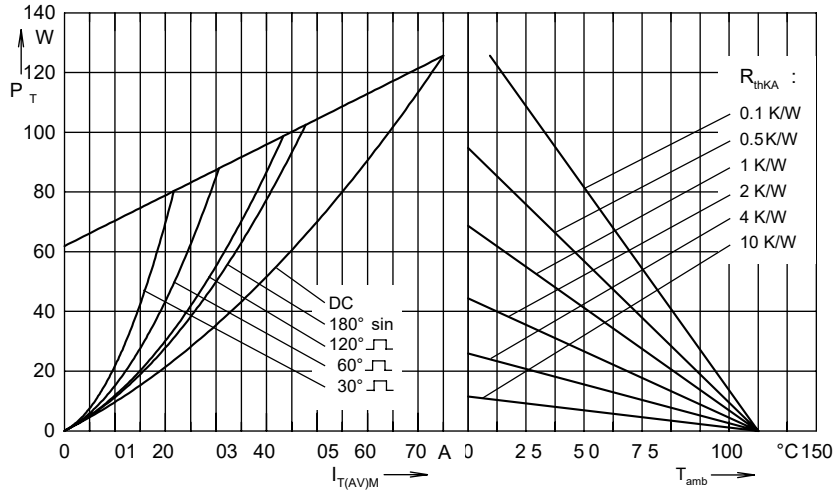

Fig. 6 Power dissipation versus forward current and ambient temperature

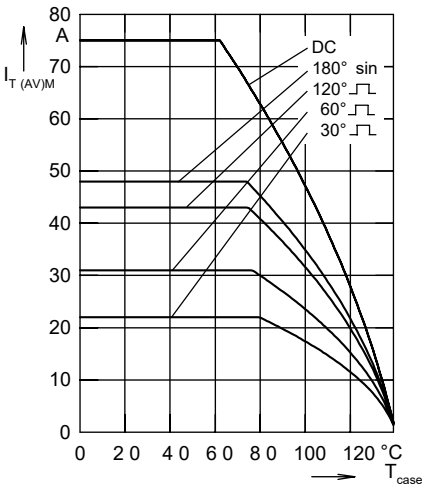

Fig.7 Max. forward current at case temperature

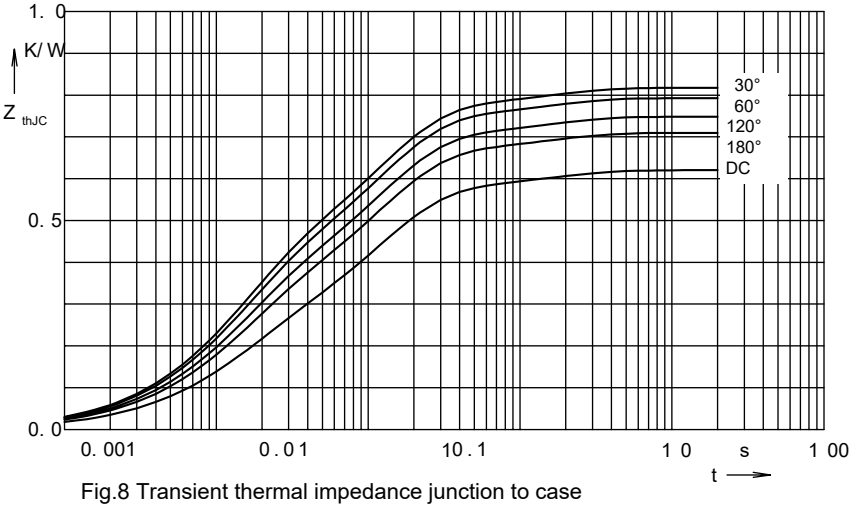

Fig.8 Transient thermal impedance junction to case

R_{thJC} for various conduction angles d:

d	R_{thJC} (K/W)
DC	0.62
180	0.71
120	0.748
60	0.793
30	0.817

Constants for Z_{thJC} calculation:

i	R_{thi}(K/W)	t_i(s)
1	0.206	0.013
2	0.362	0.118
3	0.052	1.488

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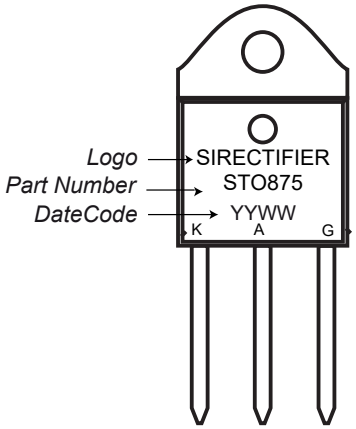
Product Marking



ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
STO875	TO-218	30pcs / Tube	STO875

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