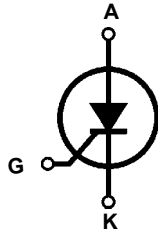
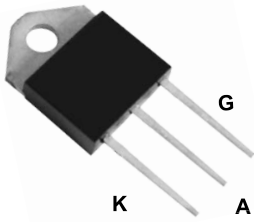
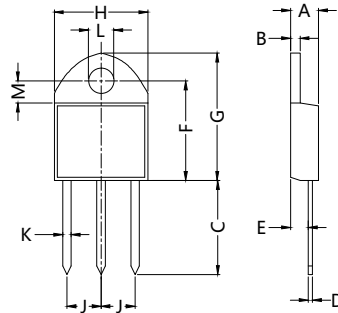


STO1875

Discrete Thyristors (Isolated)



K=Cathode, A=Anode, G=Gate



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

	V _{RRM} V	V _{RSM} V
STO1875	1800	1900



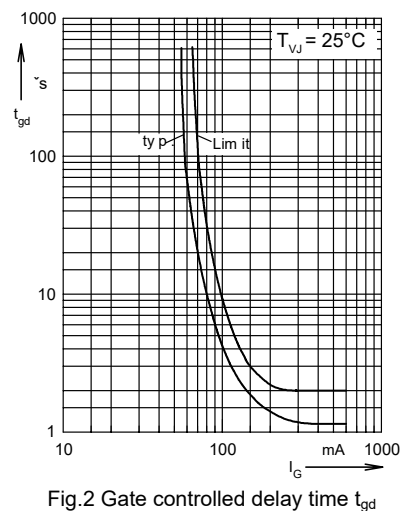
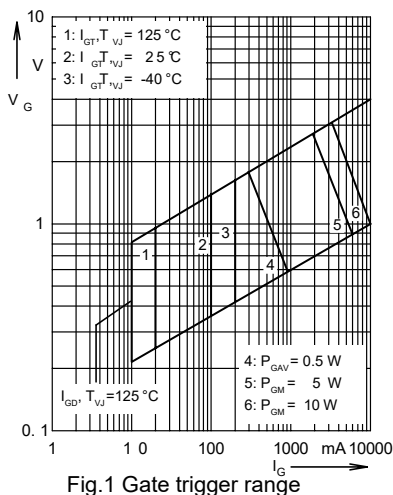
Symbol	Test Conditions	Maximum Ratings	Unit
I _{TRMS} I _{TAVM}	T _{VJ} =T _{VJM} T _C =75°C; 180° sine	75 48	A
I _{TSM}	T _{VJ} =45°C V _R =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	540 580	A
	T _{VJ} =T _{VJM} V _R =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	480 500	
i ² t	T _{VJ} =45°C V _R =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1350 1300	A ² s
	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 dig/dt=0.3A/us repetitive, I _T =40A	150	A/us
	non repetitive, I _T =I _{TAVM}	500	
(dv/dt) _{cr}	T _{VJ} =T _{VJM} ; R _{GK} =∞; 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

Sirectifier®

STO1875

Discrete Thyristors (Isolated)

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	$I_T=75A; T_{VJ}=25^{\circ}C$	1.60	V
V_{TO}	For power-loss calculations only ($T_{VJ}=125^{\circ}C$)	0.85	V
r_T		11	m Ω
V_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	1.5 1.6	V
I_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	100 200	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	0.2	V
I_{GD}		10	mA
I_L	$T_{VJ}=25^{\circ}C; t_p=10\mu s;$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	150	mA
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	100	mA
t_{gd}	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	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



STO1875

Discrete Thyristors (Isolated)

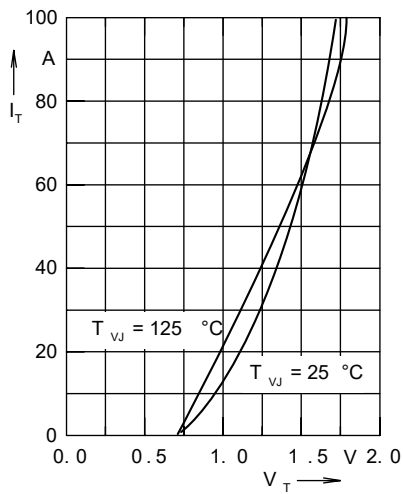


Fig.3 Forward characteristics

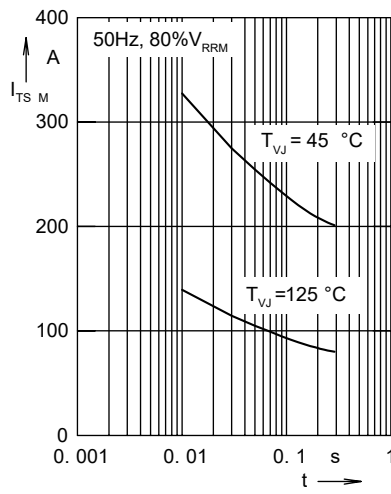


Fig.4 Surge overload current
 I_{TSM} : crest value, t: duration

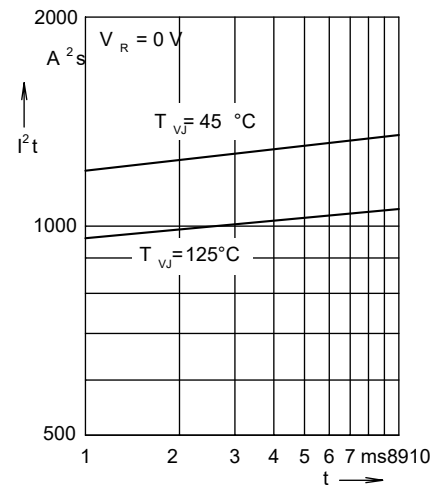


Fig.5 I^2t versus time (1-10 ms)

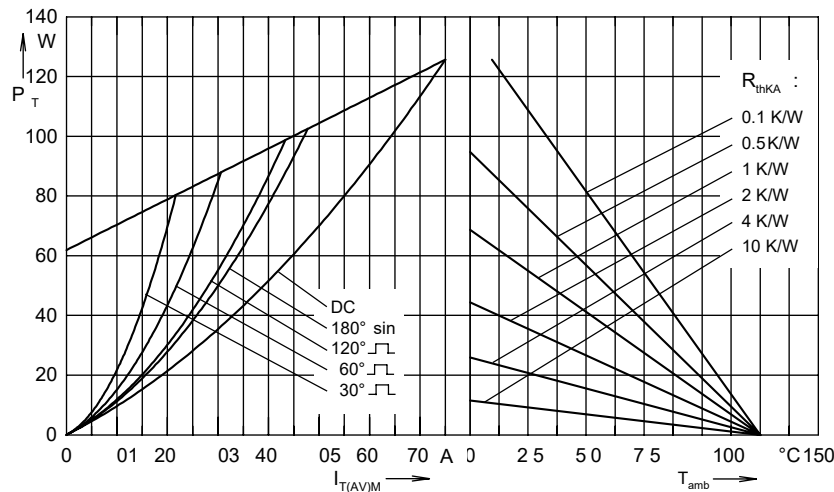


Fig. 6 Power dissipation versus forward current and ambient temperature

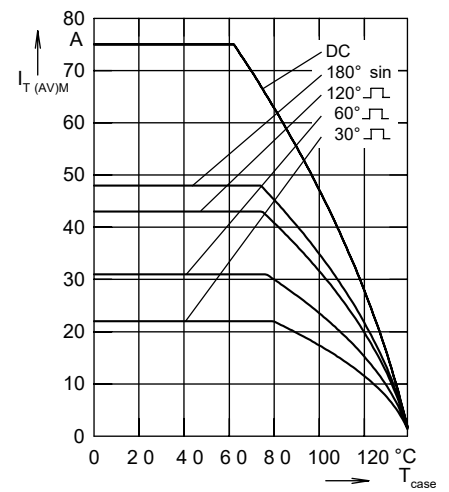


Fig.7 Max. forward current at case temperature

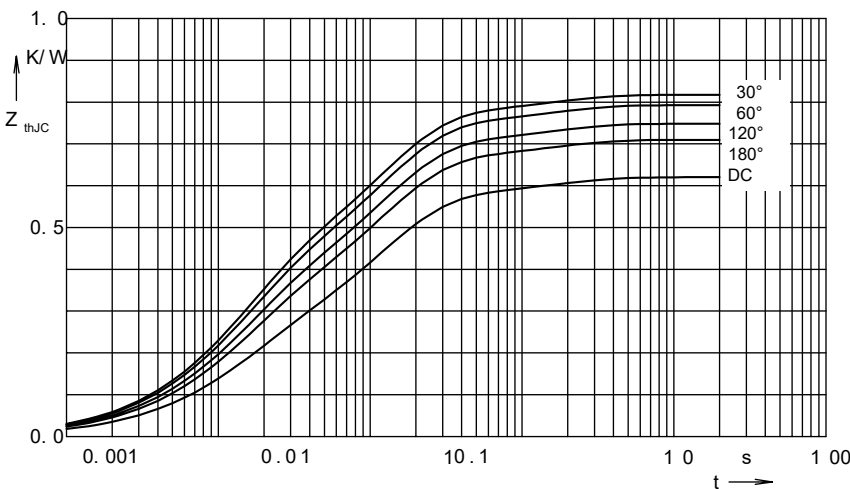


Fig.8 Transient thermal impedance junction to case

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

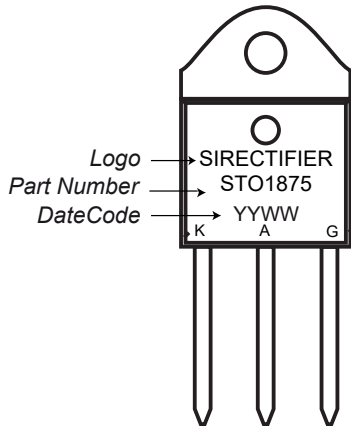
Constants for Z_{thJC} calculation:

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

STO1875

Discrete Thyristors (Isolated)

Product Marking



ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
STO1875	TO-218	30pcs / Tube	STO1875