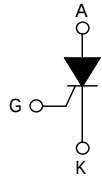
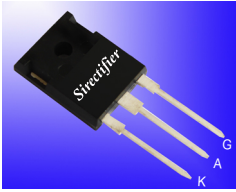
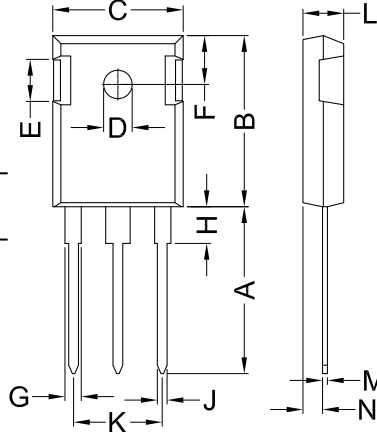


STYN265 thru STYN1865

Thyristor Discretes (SCRs)



Dimensions TO-247AD



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

K=Cathode, A=Anode, G=Gate

	V _{RRM}	V _{RSM}
	V	V
STYN265	200	300
STYN665	600	700
STYN865	800	900
STYN1065	1000	1100
STYN1265	1200	1300
STYN1665	1600	1700
STYN1865	1800	1900

Symbol	Test Conditions	Maximum Ratings STYN265~865 / STYN1065~1865	Unit
I _{TRMS} I _{TAVM}	T _{VJ} =T _{VJM} T _C =85°C; 180° sine	65 41	A
I _{TSM}	T _{VJ} =45°C V _R =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	520 560	A
	T _{VJ} =T _{VJM} V _R =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	460 500	
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 =0.15A di _G /dt=0.15A/us repetitive, I _T =65A	150	A/us
	non repetitive, I _T =I _{TAVM}	500	
(dv/dt) _{cr}	T _{VJ} =T _{VJM} ; V _{DR} =2/3V _{DRM} R _{GK} =∞; method 1 (linear voltage rise)	1000	V/us
P _{GM}	T _{VJ} =T _{VJM} t _p =30us	10	W
	I _T =I _{TAVM} t _p =300us	5	
P _{GAV}		0.5	W
V _{RGM}		10	V
T _{VJ} T _{VJM} T _{stg}		-40...+140 140 -40...+125	°C
M _d	Mounting torque (M3)	0.8...1.2	Nm
F _c	Mounting force with clip	20...120	N
Weight	typical	6	g

STYN265 thru STYN1865

Thyristor Discretes (SCRs)

Symbol	Test Conditions	Characteristic Values		Unit
		STYN265~865	STYN1065~1865	
I_R, I_D	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	5		mA
V_T	$I_T=65A; T_{VJ}=25^{\circ}C$	1.50	1.60	V
V_{TO}	For power-loss calculations only ($T_{VJ}=125^{\circ}C$)	0.85		V
r_T		11		$m\Omega$
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		μs
R_{thJC}	DC current	0.62		K/W
R_{thJH}	DC current	typ.	0.82	K/W
a	Max. acceleration, 50 Hz	50		m/s^2

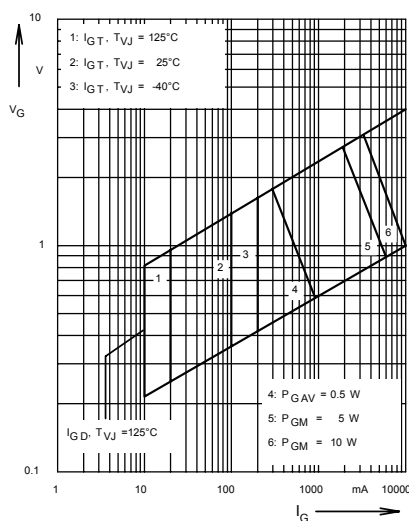


Fig. 1 Gate trigger range

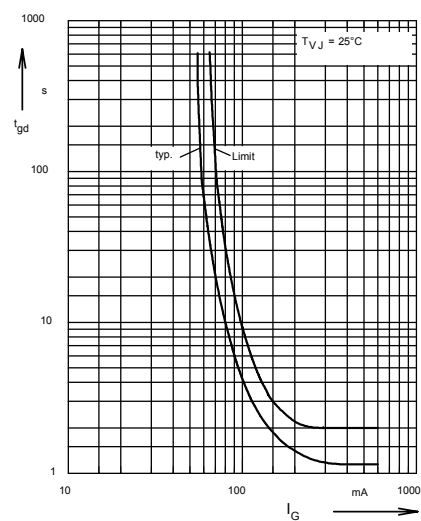


Fig. 2 Gate controlled delay time t_{gd}

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STYN265 thru STYN1865

Thyristor Discretes (SCRs)

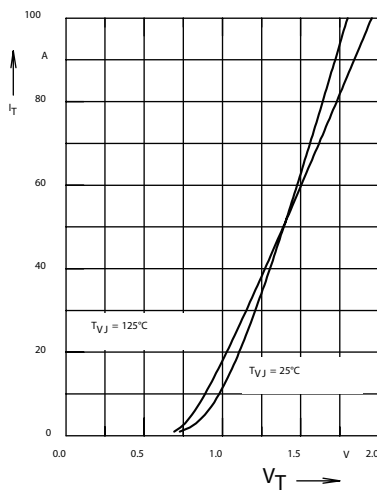


Fig. 3 Forward characteristics

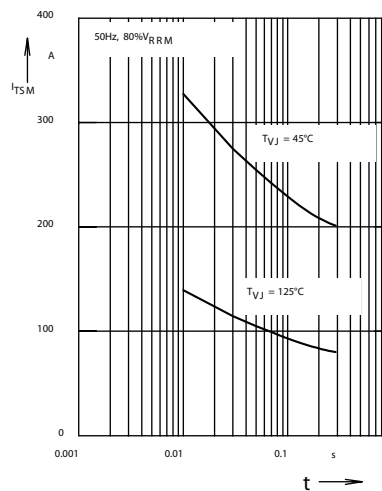


Fig. 4 Surge overload current
 I_{TSM} : crest value, t : duration

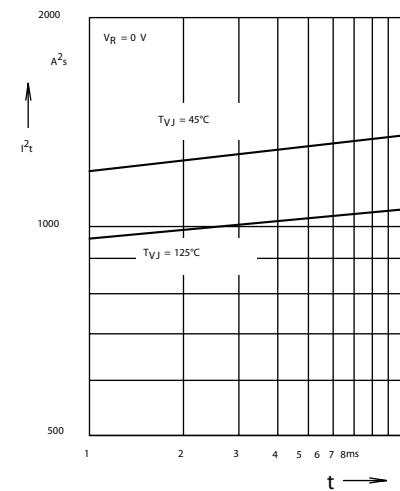


Fig. 5 I^2t versus time (1-10 ms)

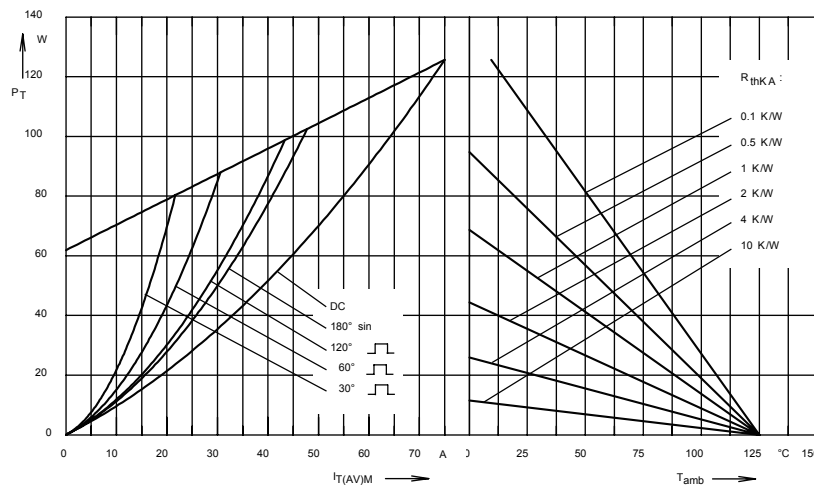


Fig. 6 Power dissipation versus forward current and ambient temperature

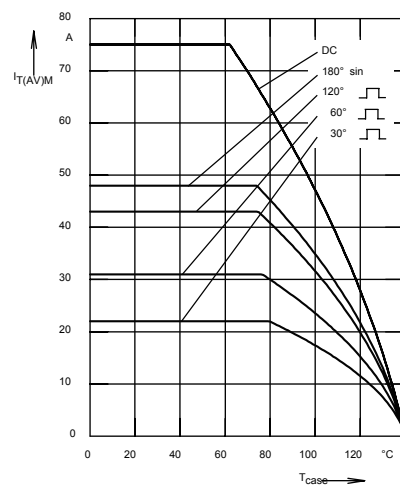


Fig. 7 Max. forward current at case temperature

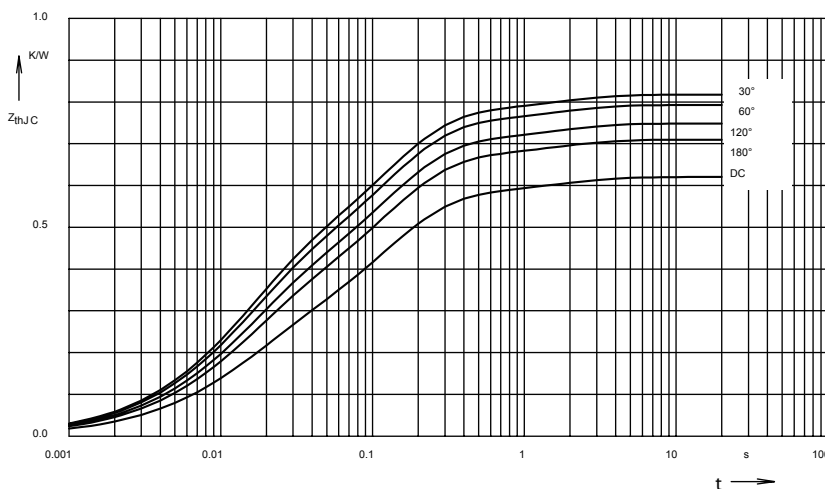


Fig. 8 Transient thermal impedance junction to case

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