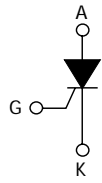
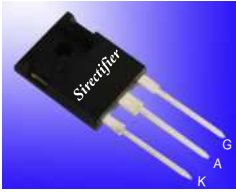
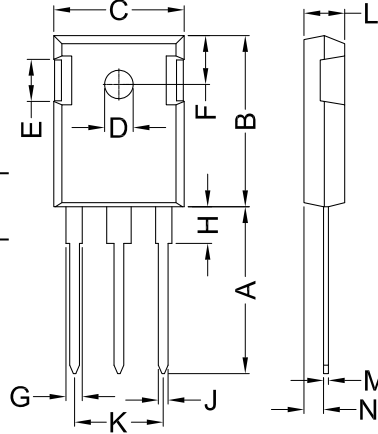


STYN265 thru STYN1865

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=Cate

	VRRM	VRSM
	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	Unit	
		STYN265~865 / STYN1065~1865		
I_{TRMS} I_{TAVM}	$T_{VJ}=T_{VJM}$ $T_C=85^{\circ}C$; 180° sine	65 41	A	
I_{TSM}	$T_{VJ}=45^{\circ}C$ $V_R=0$ 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^2t	$T_{VJ}=45^{\circ}C$ $V_R=0$ 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, $t_p=200\mu s$ $V_D=2/3V_{DRM}$ $I_G=0.15A$ $di_G/dt=0.15A/\mu s$ repetitive, $I_T=65A$	150	A/ μs	
	non repetitive, $I_T=I_{TAVM}$	500		
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM}$; $R_{GK}=\infty$; method 1 (linear voltage rise) $V_{DR}=2/3V_{DRM}$	1000	V/ μs	
P_{GM}	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$ $t_p=30\mu s$ $t_p=300\mu s$	10 5	W	
		0.5		
V_{RGM}		10	V	
T_{VJ} T_{VJM} T_{stg}		-40...+140 140 -40...+125	°C	
	M_d	0.8...1.2		Nm
	F_c	20...120		
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		us
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

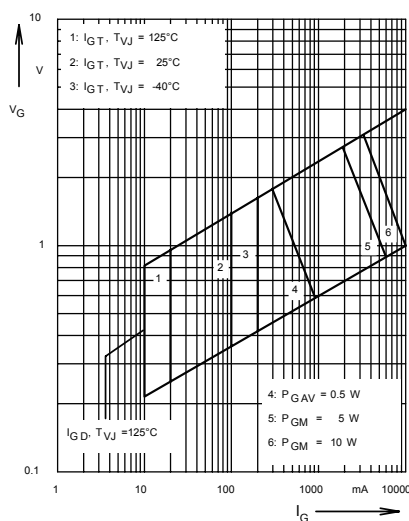


Fig. 1 Gate trigger range

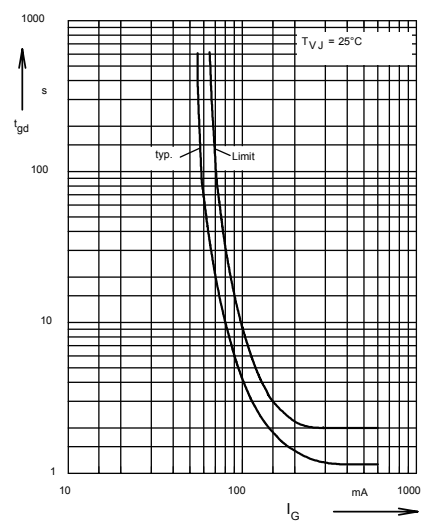


Fig. 2 Gate controlled delay time t_{gd}

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STYN265 thru STYN1865

Thyristor Discretes (SCRs)

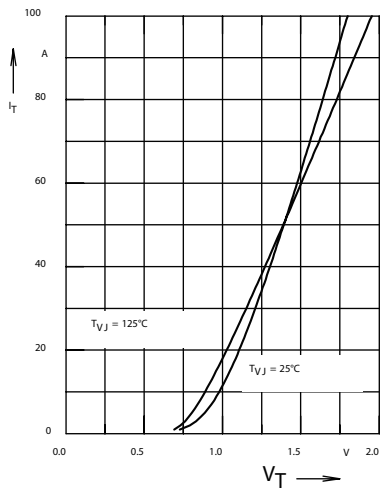


Fig. 3 Forward characteristics

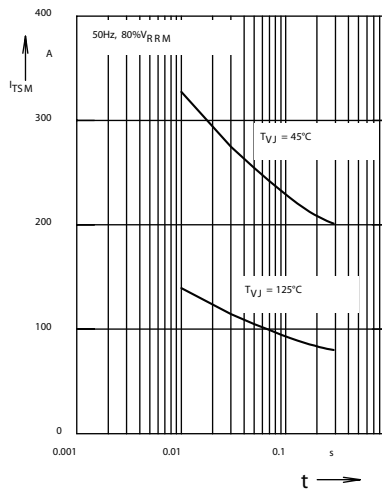


Fig. 4 Surge overload current
 I_{TSM} : crest value, t: duration

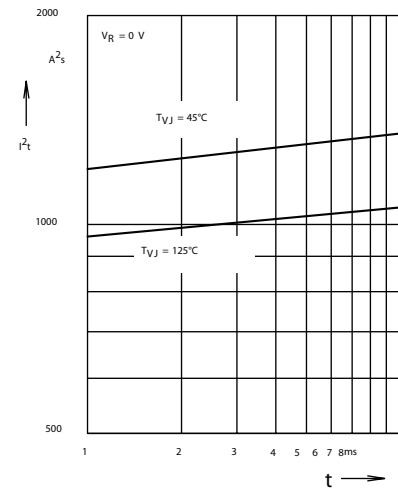


Fig. 5 I^2t versus time (1-10 ms)

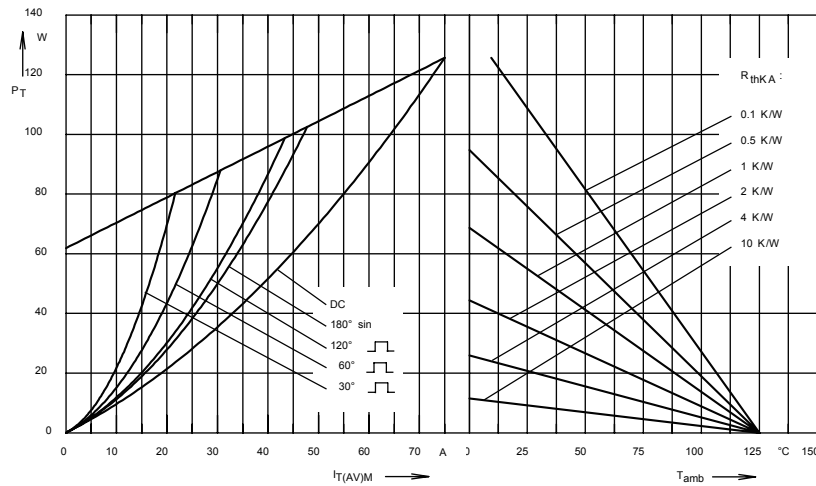


Fig. 6 Power dissipation versus forward current and ambient temperature

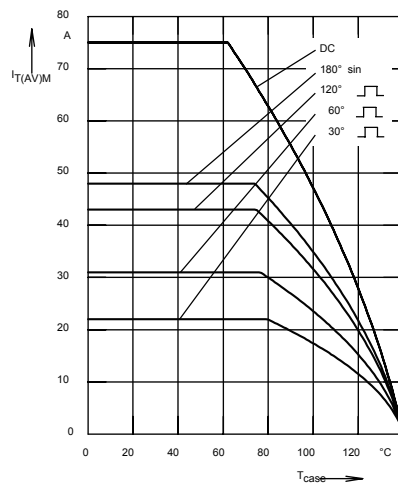


Fig. 7 Max. forward current at case temperature

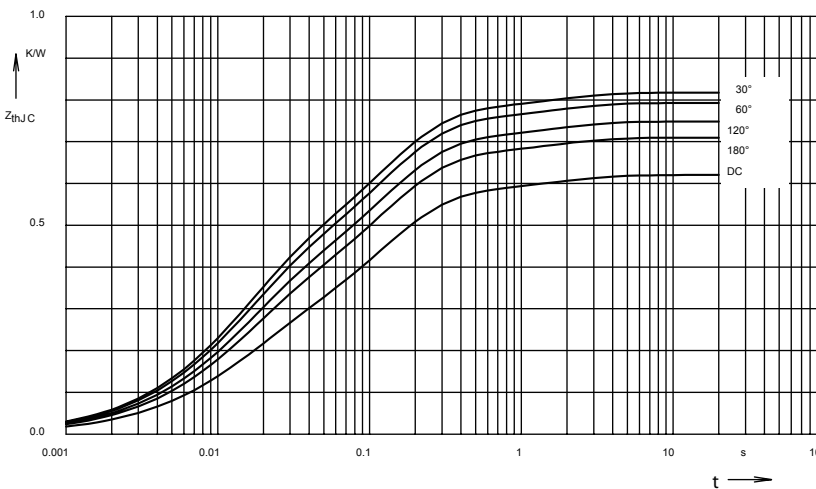


Fig. 8 Transient thermal impedance junction to case

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

