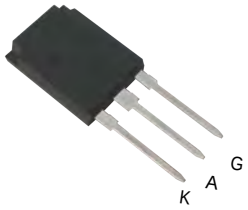
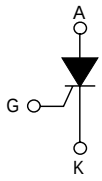
STYN20140

Discrete SCRs (Thyristors)

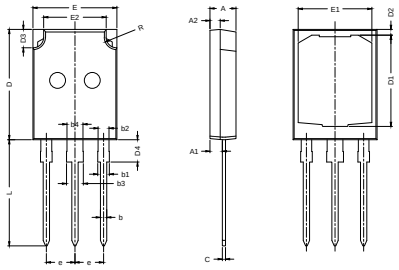




K=Cathode, A=Anode, G=Cate

	V_{RRM} V	V_{RSM} V
STYN20140	2000	2100

Dimensions TO-247P



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.85	5.10	D2	0.96	1.25
A1	2.31	2.51	D3	3.35	3.80
A2	1.85	2.10	D4	3.95	4.45
b	1.16	1.26	E	15.80	16.05
b1	/	2.25	E1	13.50	14.40
b2	1.96	2.15	E2	11.25	12.45
b3	/	3.25			
b4	2.96	3.15	e	5.44(BSC)	
c	0.59	0.66	L	19.80	20.25
D	20.85	21.10			
D1	17.15	17.75	R	1.90	2.10

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS} I_{TAVM}	$T_{VJ}=T_{VJM}$ T_C=85°C; 180° sine		140 90	A
I_{TSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1700 1800	A
	$T_{VJ}=T_{VJM}$ V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1540 1640	
I^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	11450 13500	A^2s
	$T_{VJ}=T_{VJM}$ V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	11850 11300	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ f=50Hz, t_p=200us V_D=2/3V_{DRM} I_G=0.45A di_G/dt=0.45A/us	repetitive, I_T=250A non repetitive, $I_T=I_{TAVM}$	150 500	A/us
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM}$; 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
M_d F_c	Mounting torque (M3) Mounting force with clip		0.8...1.2 20...120	Nm N
Weight	typical		6	g

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com

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Symbol	Test Conditions	Characteristic Values		Unit
		STYN8140-16140	STYN18140-22140	
I_R, I_D	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$; $V_D=V_{DRM}$	5		mA
V_{TM}	I_T=270A; T_{VJ}=25°C	1.60	1.90	V
V_{TO}	For power-loss calculations only (T_{VJ}=125°C)	0.85		V
r_T		2.70	3.80	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	0.16		K/W
R_{thJH}	DC current	typ. 0.10		K/W
a	Max. acceleration, 50 Hz	50		m/s^2

Features / Advantages:

- Thyristor for line frequency
- Glass passivated chip

Package: TO-247AD

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0

Applications:

- Line rectifying 50/60 Hz
- Softstart AC motor control
- DC Motor control
- Power converter
- AC power control
- Lighting and temperature control

Product Reliability

- IEC147-4
- IEC68-2-14
- IEC68-2-20
- IEC68-2-27
- CECC50000-4.4.3

RoHS Compliant

ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
STYN20140	TO-247P	30pcs / Tube	STYN20140

Packing: 30pcs per tube, 20 tubes per box (=600pcs) , 6 boxes per carton (=3600pcs)

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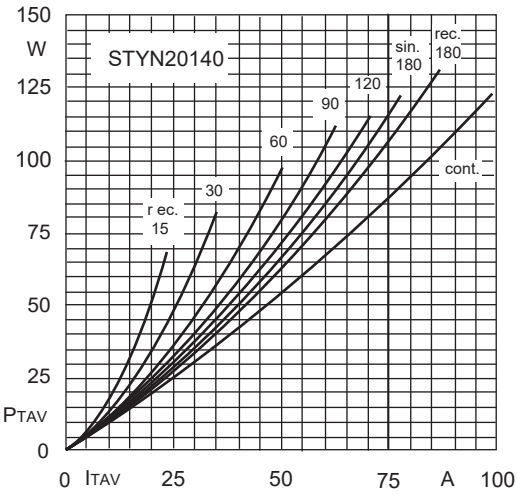

Fig.1 Power dissipation per thyristor vs. on-state current

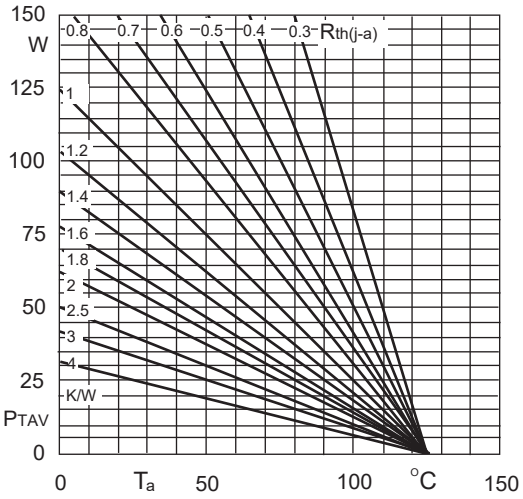

Fig. 2 Power dissipation per thyristor vs. ambient temp

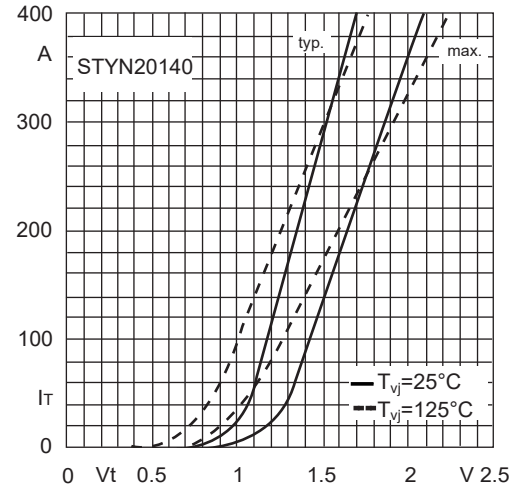

Fig.3 On-state charactristics

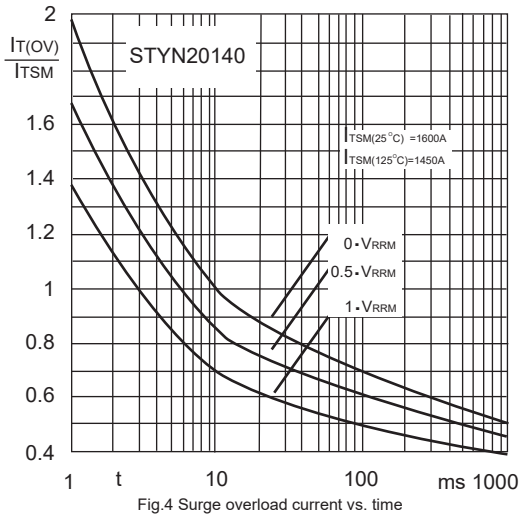

Fig.4 Surge overload current vs. time

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