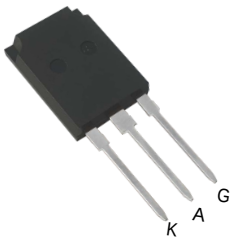
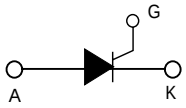
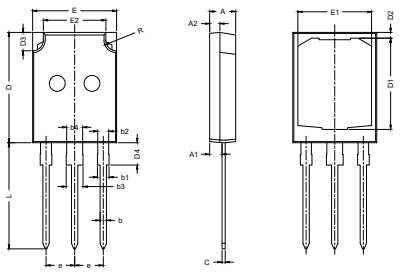
STYN10110

Discrete Thyristors(SCRS)





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

	V_{RRM} V	V_{RSM} V
STYN10110	1000	1100

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS} I_{TAVM}	. V_J=T_{VJM} T_C=85°C; 180° sine		110 70	A
I_{TSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1100 1190	A
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	935 1010	
I^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	6050 5890	A^2s
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	4370 4250	
$(di/dt)_{cr}$	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=330A non repetitive, I_T=110A	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...+150 125 -40...+150	°C
M_d F_c	Mounting torque (M3) Mounting force with clip		0.8...1.2 20...120	Nm N
Weight	typical		6	g

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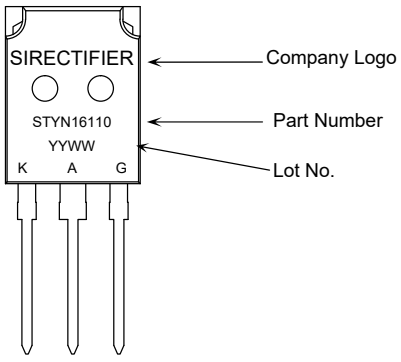
STYN16110

Discrete Thyristors(SCRS)

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=110A; T_{VJ}=25°C	1.37	V
V_{TO}	For power-loss calculations only (T_{VJ}=125°C)	0.82	V
r_T		5.2	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 T_{VJ}=125°C	40 80 50	mA
V_{GD}	$T_{VJ}=T_{VJM}$; V_D=2/3V_{DRM}	0.2	V
I_{GD}		5	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	0.2	K/W
R_{thCH}	DC current	0.15	K/W
a	Max. acceleration, 50 Hz	50	m/s^2

Product Marking



Features / Advantages:

- Thyristor for line frequency
- Glass passivated chip

Package: TO-247P

- 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-
- IEC68-2-1
- IEC68-2-2
- IEC68-2-2
- CECC50000-4.4.

Standard applicable to Power Semiconductors

- IEC191-1/
- IEC747-
- IEC747-
- IEC68-2-..
- IUL94-V

Part Number	Package	Shipping	Marking Code
STYN16110	TO-247P	30pcs / Tube	STYN16110

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STYN16110

Discrete Thyristors(SCRS)

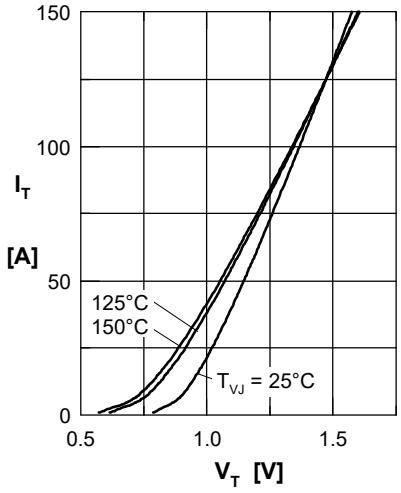


Fig. 1 Forward characteristics

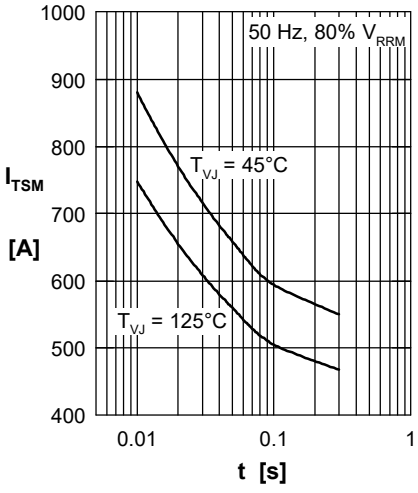


Fig. 2 Surge overload current

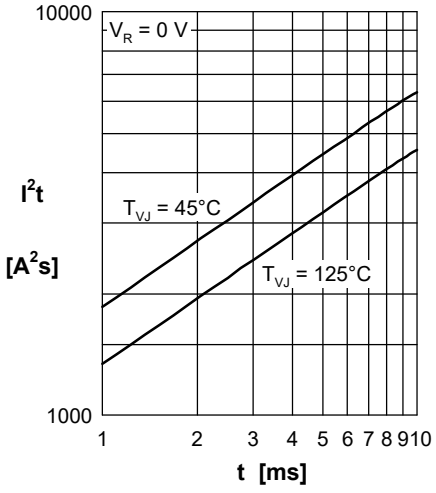


Fig. 3 I^2t versus time (1-10 ms)

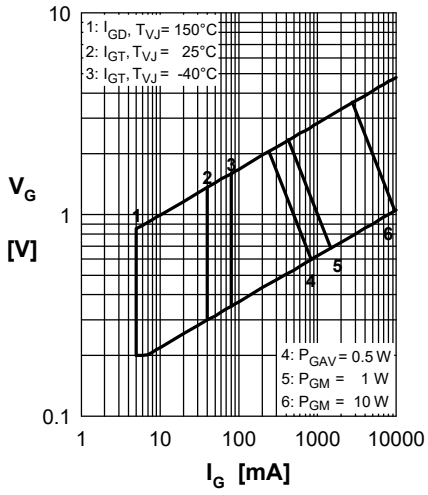


Fig. 4 Gate trigger characteristics

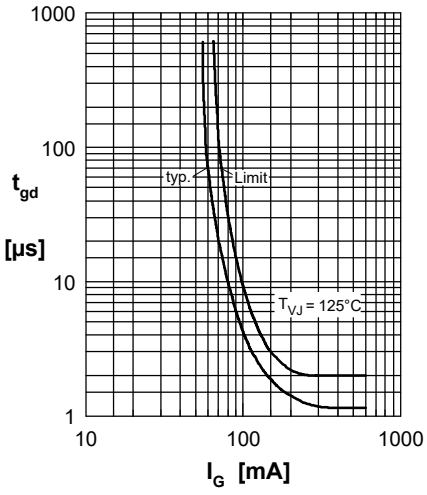


Fig. 5 Gate controlled delay time

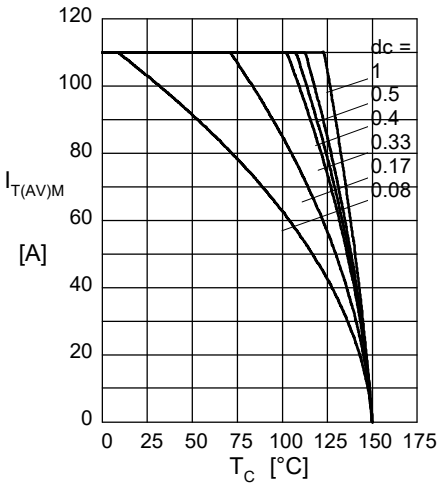


Fig. 6 Max. forward current at case temperature

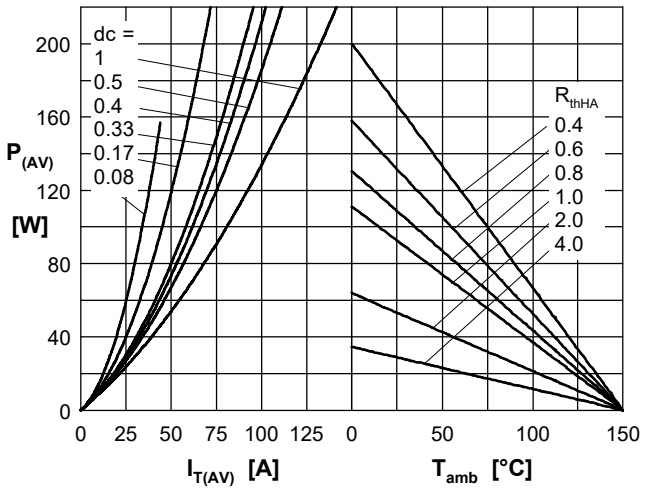
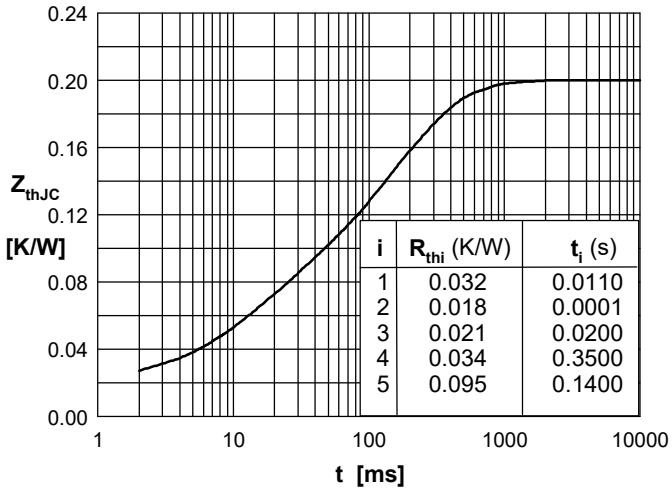


Fig. 7a Power dissipation versus direct output current
Fig. 7b and ambient temperature



i	R_{thi} (K/W)	t_i (s)
1	0.032	0.0110
2	0.018	0.0001
3	0.021	0.0200
4	0.034	0.3500
5	0.095	0.1400

Fig. 8 Transient thermal impedance

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