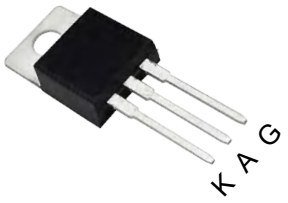
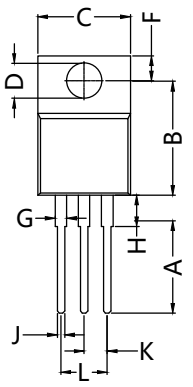
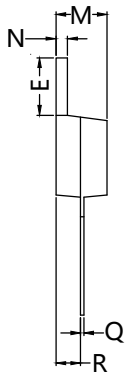
STYN825

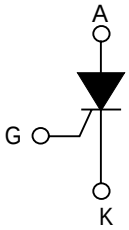
Discrete Thyristors(SCRs)

Dimensions TO-220AB









Dim.	Millimeter	
	Min.	Max.
A	12.70	13.97
B	14.73	16.00
C	9.91	10.66
ØD	3.54	4.08
E	5.85	6.85
F	2.54	3.18
G	1.15	1.65
H	2.79	5.84
J	0.64	1.01
K	2.45BSC	
L	5.05BSC	
M	4.32	4.82
N	1.14	1.39
Q	0.35	0.56
R	2.29	2.79

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter			Value	Unit
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)		Tc = 100°C	25	A
$IT_{(AV)}$	Average on-state current (180° conduction angle)		Tc = 100°C	16	A
I_{TSM}	Non repetitive surge peak on-state current	tp = 8.3 ms	Tj = 25°C	360	A
		tp = 10 ms		330	
I^2t	I²t Value for fusing	tp = 10 ms	Tj = 25°C	550	A^2S
dI/dt	Critical rate of rise of on-state current I_G = 2 x I_{GT} , tr £ 100 ns	F = 60 Hz	Tj = 125°C	50	A/µs
I_{GM}	Peak gate current	tp = 20 µs	Tj = 125°C	4	A
$P_{G(AV)}$	Average gate power dissipation		Tj = 125°C	1	W
T_{stg} Tj	Storage junction temperature range Operating junction temperature range			- 40 to + 150 - 40 to + 125	°C
V_{RGM}	Maximum peak reverse gate voltage			5	V

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ELECTRICAL CHARACTERISTICS (Tj = 25°C, unless otherwise specified)

■ **STANDARD**

Symbol	Test Conditions			Value	Unit
I_{GT}	V_D = 12 V R_L = 33 W		MIN.	4	mA
			MAX.	40	
V_{GT}			MAX.	1.3	V
V_{GD}	$V_D = V_{DRM}$ R_L = 3.3 kW	Tj = 125°C	MIN.	0.2	V
I_H	I_T = 500mA Gate open		MAX.	50	mA
I_L	$I_G = 1.2\ I_{GT}$		MAX.	90	mA
dV/dt	V_D = 67 % V_{DRM} Gate open	Tj = 125°C	MIN.	1000	V/µs
V_{TM}	I_{TM} = 16A tp = 380 µs	Tj = 25°C	MAX.	1.20	V
V_{to}	Threshold voltage	Tj = 125°C	MAX.	0.77	V
R_d	Dynamic resistance	Tj = 125°C	MAX.	14	mΩ
I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM}$	Tj = 25°C	MAX.	5	µA
		Tj = 125°C		4	mA

THERMAL RESISTANCES

Symbol	Parameter			Value	Unit
$R_{th(j-c)}$	Junction to case (DC)			1.0	°C/W
$R_{th(j-a)}$	Junction to ambient (DC)		TO-220AB	60	°C/W
		S = 1.0 cm^2	TO-263	45	

S= copper surface under tab

PRODUCT SELECTOR

Part Number	Voltage (xxx)	Sensitivity	Package
STYNxx25	200~1600	15 mA	TO-220AB

OTHER INFORMATION

Part Number	Marking	Weight	Base Quantity	Packing mode
STYN xx25	STYN x25	2.3 g	250	Bulk

Note: xx= voltage/100

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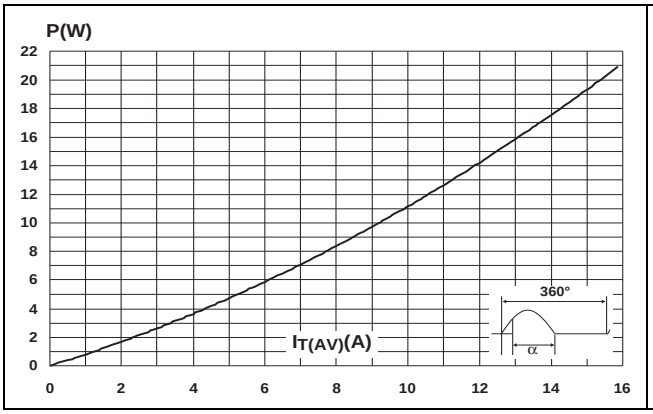

Figure 1. Maximum average power dissipation versus average on-state current

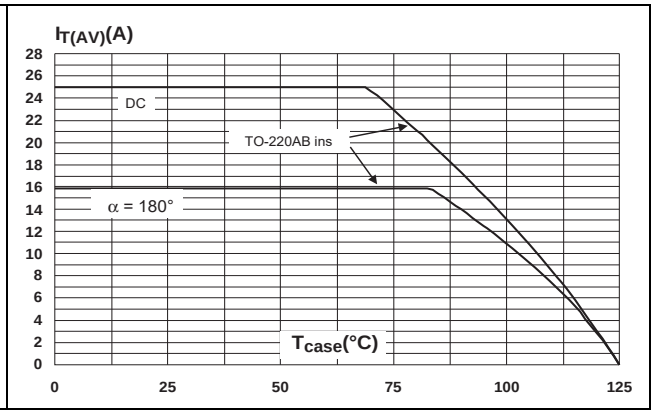

Figure 2. Average and DC on-state current versus case temperature

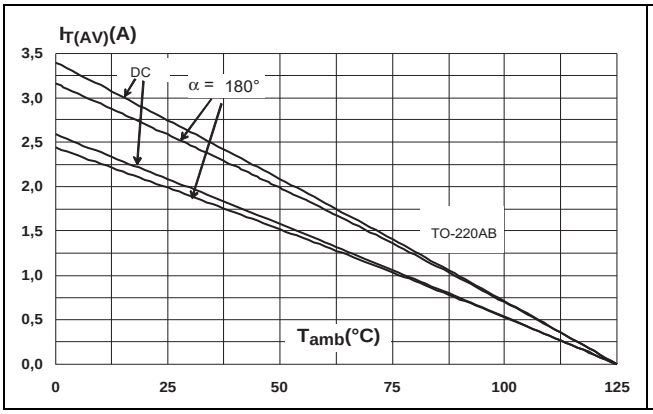

Figure 3. Average and DC on-state current versus ambient temperature

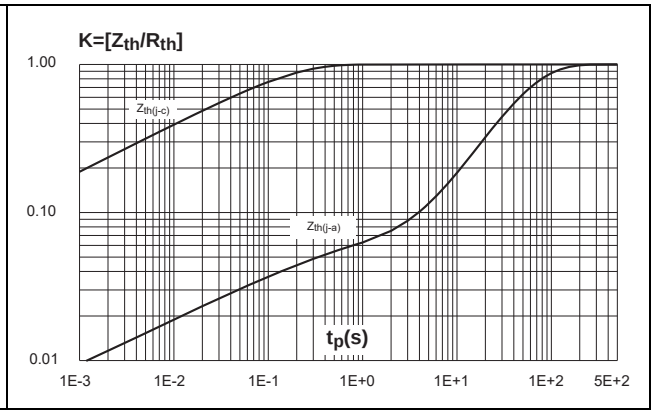

Figure 4. Relative variation of thermal impedance versus pulse duration

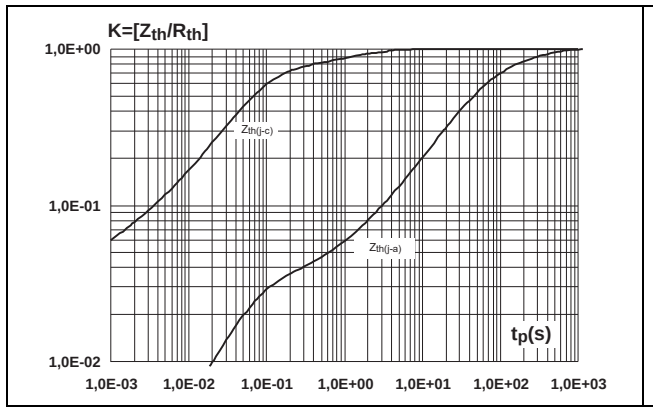

Figure5. Relative variation of thermal impedance versus pulse duration

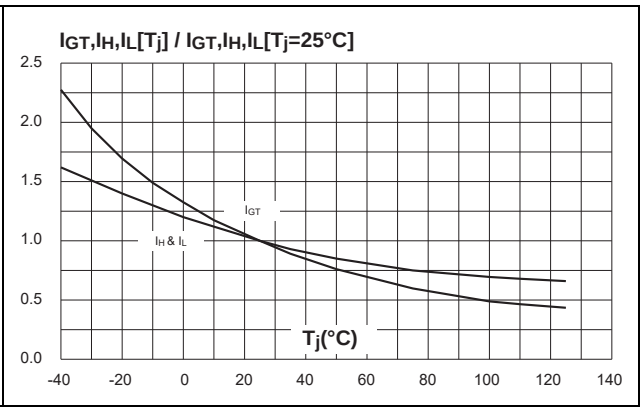

Figure 6. Relative variation of gate trigger, holding, and latching currents versus junction temperature

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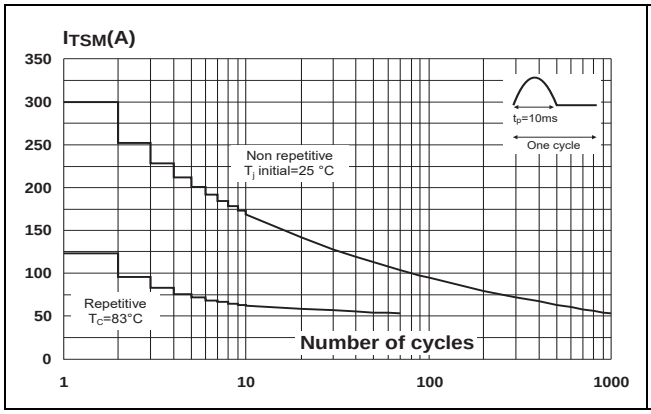


Figure 7. Surge peak on-state current versus number of cycles

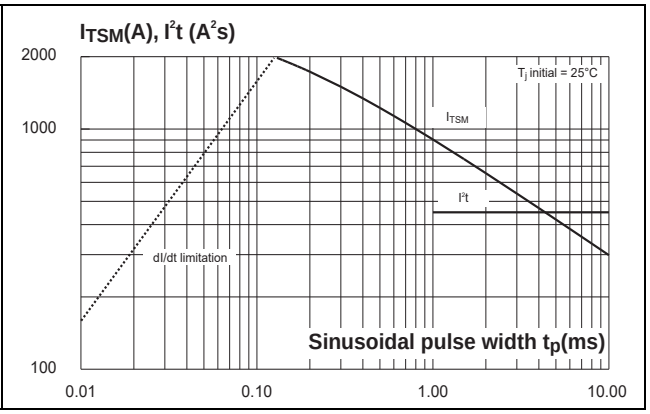


Figure 8. Non-repetitive surge peak on-state current, and corresponding values of I^2t

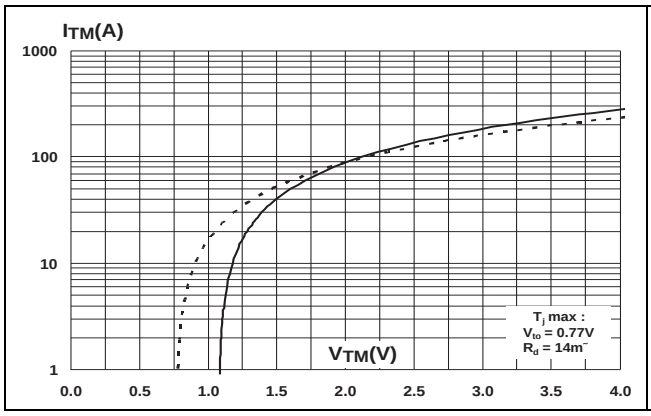


Figure 9. On-state characteristics (maximum values)

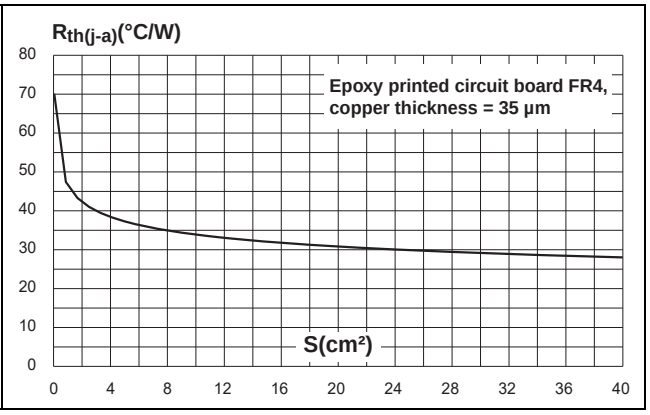
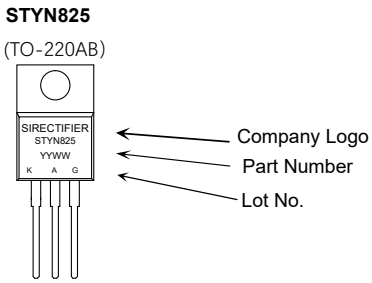


Figure 10. Thermal resistance junction to ambient versus copper surface under tab

Marking



Ordering Information

Part Number	Package	Shipping	Marking Code
STYN825	TO-220AB	50pcs / Tube or 800pcs / Tape & Reel or 1000pcs / Tape & Reel	STYN825

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