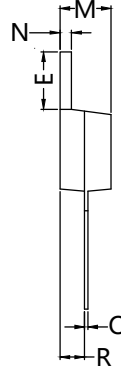
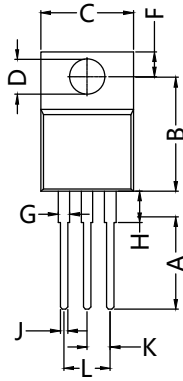
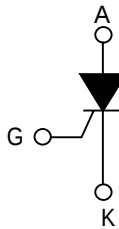
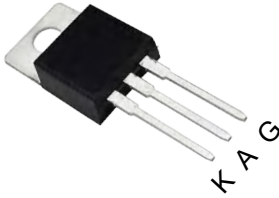


STYN825

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)		$T_c = 100^\circ C$	A
$I_{T(AV)}$	Average on-state current (180° conduction angle)		$T_c = 100^\circ C$	A
I_{TSM}	Non repetitive surge peak on-state current	$t_p = 8.3 \text{ ms}$	$T_j = 25^\circ C$	A
		$t_p = 10 \text{ ms}$		
I^2t	I^2t Value for fusing	$t_p = 10 \text{ ms}$	$T_j = 25^\circ C$	A^2S
di/dt	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r \leq 100 \text{ ns}$	$F = 60 \text{ Hz}$	$T_j = 125^\circ C$	$A/\mu s$
I_{GM}	Peak gate current	$t_p = 20 \mu s$	$T_j = 125^\circ C$	A
$P_{G(AV)}$	Average gate power dissipation		$T_j = 125^\circ C$	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range		- 40 to + 150 - 40 to + 125	$^\circ C$
V_{RGM}	Maximum peak reverse gate voltage		5	V

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STYN825

Discrete Thyristors(SCRs)

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

■ STANDARD

Symbol	Test Conditions			Value	Unit
I_{GT}	$V_D = 12\text{ V}$ $R_L = 33\text{ W}$		MIN.	4	mA
			MAX.	40	
V_{GT}			MAX.	1.3	V
V_{GD}	$V_D = V_{DRM}$ $R_L = 3.3\text{ kW}$	$T_j = 125^\circ\text{C}$	MIN.	0.2	V
I_H	$I_T = 500\text{ mA}$ 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	$T_j = 125^\circ\text{C}$	MIN.	1000	V/ μs
V_{TM}	$I_{TM} = 16\text{ A}$ $t_p = 380\text{ }\mu\text{s}$	$T_j = 25^\circ\text{C}$	MAX.	1.20	V
V_{to}	Threshold voltage	$T_j = 125^\circ\text{C}$	MAX.	0.77	V
R_d	Dynamic resistance	$T_j = 125^\circ\text{C}$	MAX.	14	m Ω
I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM}$	$T_j = 25^\circ\text{C}$	MAX.	5	μA
		$T_j = 125^\circ\text{C}$		4	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to case (DC)		1.0	$^\circ\text{C/W}$
$R_{th(j-a)}$	Junction to ambient (DC)	TO-220AB	60	$^\circ\text{C/W}$
		$S = 1.0\text{ cm}^2$ 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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Discrete Thyristors(SCRs)

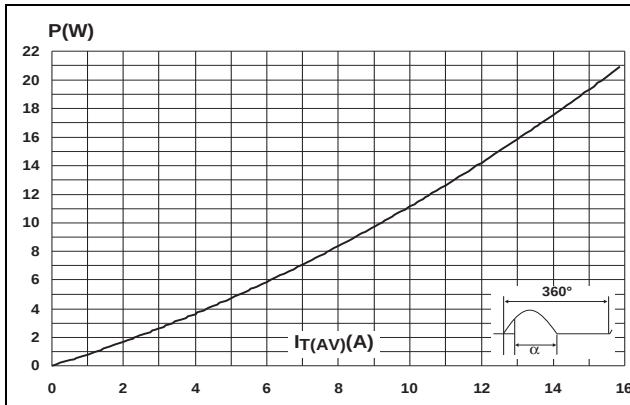


Figure 1. Maximum average power dissipation versus average on-state current

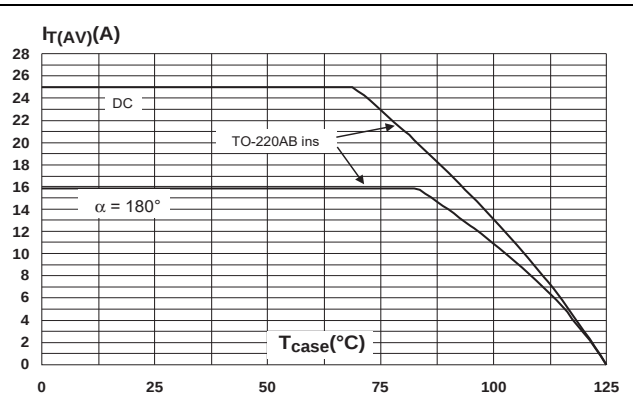


Figure 2. Average and DC on-state current versus case temperature

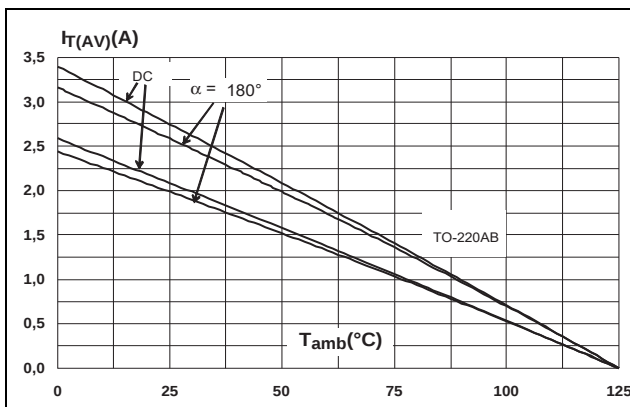


Figure 3. Average and DC on-state current versus ambient temperature

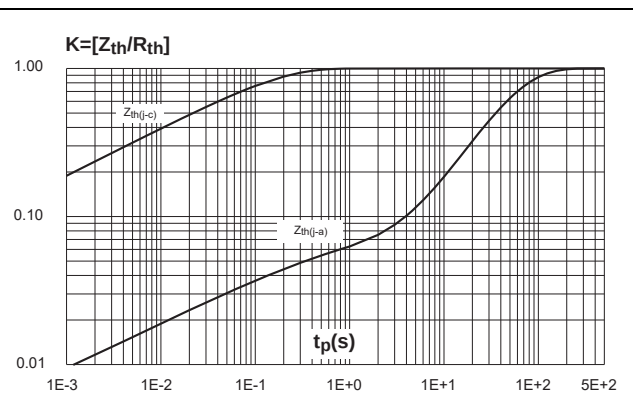


Figure 4. Relative variation of thermal impedance versus pulse duration

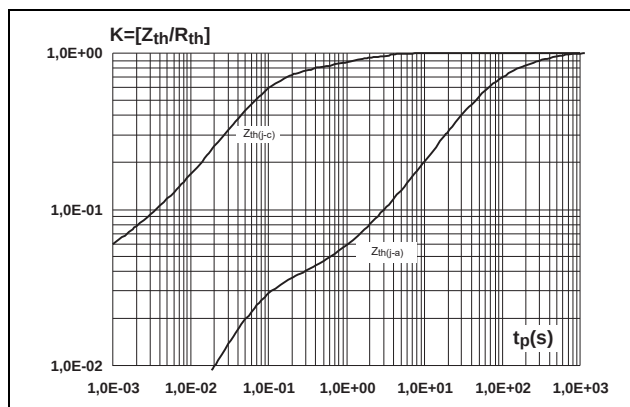


Figure 5. Relative variation of thermal impedance versus pulse duration

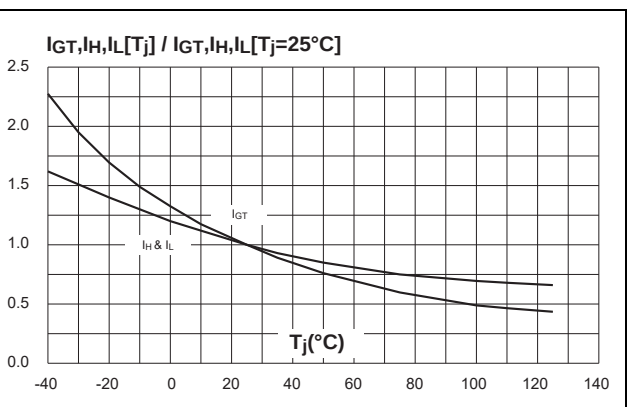


Figure 6. Relative variation of gate trigger, holding, and latching currents versus junction temperature

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Discrete Thyristors(SCRs)

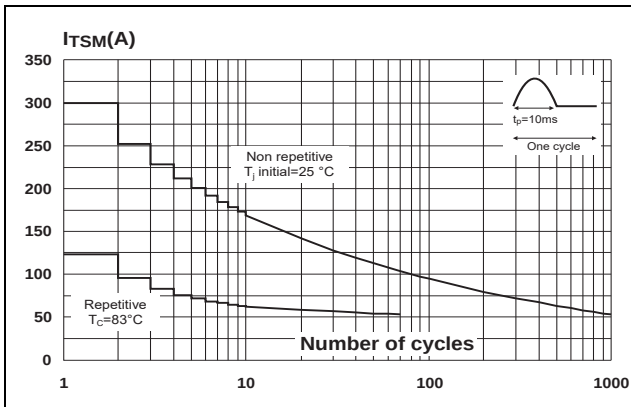


Figure 7. Surge peak on-state current versus number of cycles

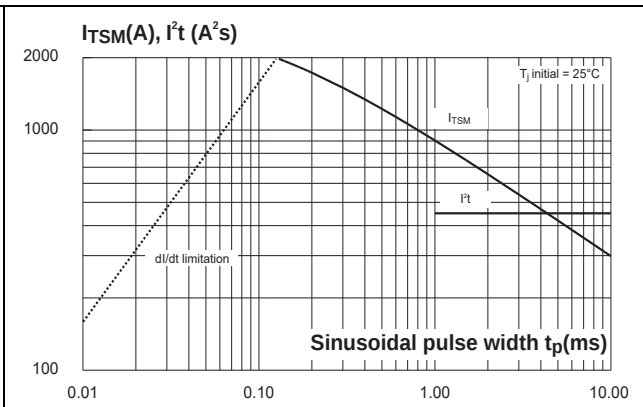


Figure 8. Non-repetitive surge peak on-state current, and corresponding values of I^2t

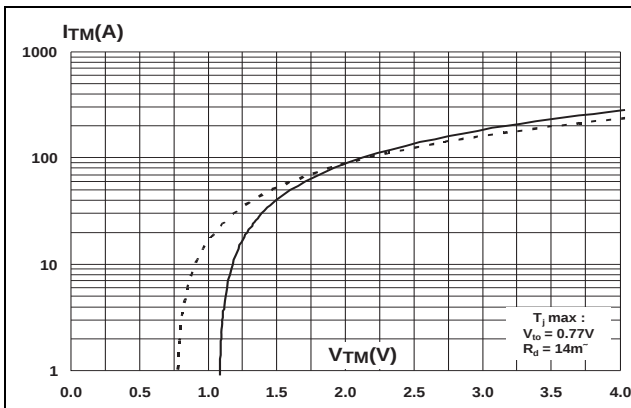


Figure 9. On-state characteristics (maximum values)

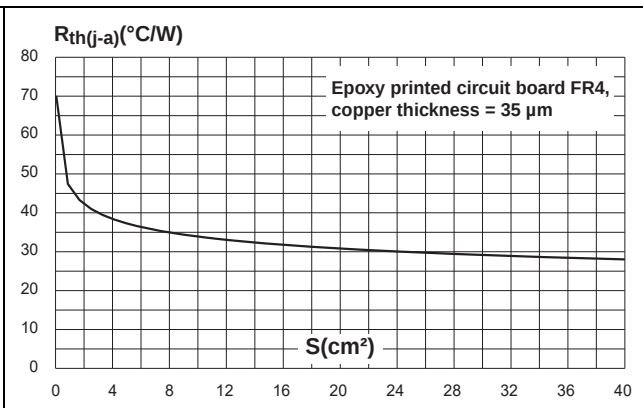
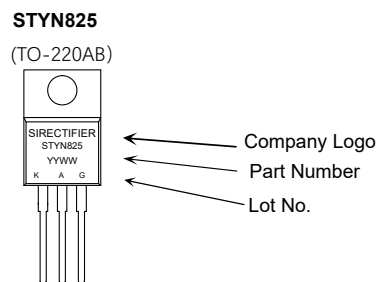


Figure 10. Thermal resistance junction to ambient versus copper surface under tab

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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