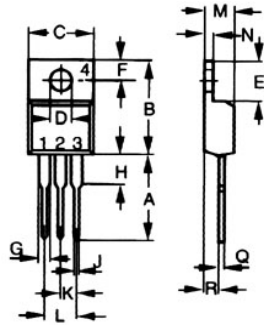
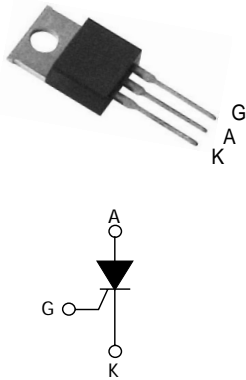


# STYN216(S) thru STYN1016(S)

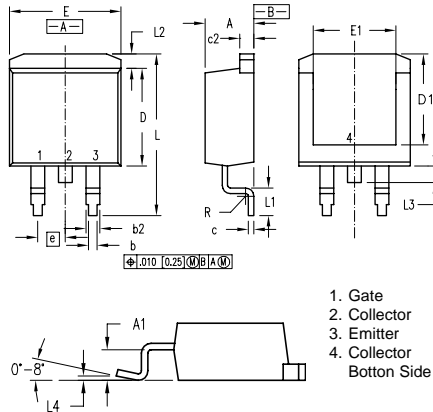
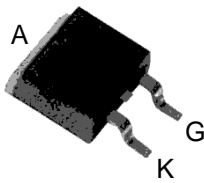
## Discrete Thyristors(SCRs)

Dimensions TO-220AB



Dim.	Inches		Millimeter	
	Min.	Max.	Min.	Max.
A	0.500	0.550	12.70	13.97
B	0.580	0.630	14.73	16.00
C	0.390	0.420	9.91	10.66
D	0.139	0.161	3.54	4.08
E	0.230	0.270	5.85	6.85
F	0.100	0.125	2.54	3.18
G	0.045	0.065	1.15	1.65
H	0.110	0.230	2.79	5.84
J	0.025	0.040	0.64	1.01
K	0.100	BSC	2.54	BSC
M	0.170	0.190	4.32	4.82
N	0.045	0.055	1.14	1.39
Q	0.014	0.022	0.35	0.56
R	0.090	0.110	2.29	2.79

Dimensions TO-263(D<sup>2</sup>PAK)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.06	4.83	.160	.190
A1	2.03	2.79	.080	.110
b	0.51	0.99	.020	.039
b2	1.14	1.40	.045	.055
c	0.46	0.74	.018	.029
c2	1.14	1.40	.045	.055
D	8.64	9.65	.340	.380
D1	8.00	8.89	.315	.350
E	9.65	10.29	.380	.405
E1	6.22	8.13	.245	.320
e	2.54	BSC	.100	BSC
L	14.61	15.88	.575	.625
L1	2.29	2.79	.090	.110
L2	1.02	1.40	.040	.055
L3	1.27	1.78	.050	.070
L4	0	0.20	0	.008
R	0.46	0.74	.018	.029

### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)		$T_c = 110^\circ\text{C}$ 16	A
$I_{T(AV)}$	Average on-state current (180° conduction angle)		$T_c = 110^\circ\text{C}$ 10	A
$I_{TSM}$	Non repetitive surge peak on-state current	$t_p = 8.3 \text{ ms}$	$T_j = 25^\circ\text{C}$ 200	A
		$t_p = 10 \text{ ms}$		
$I^2t$	$I^2t$ Value for fusing	$t_p = 10 \text{ ms}$	$T_j = 25^\circ\text{C}$ 180	A <sup>2</sup> s
$di/dt$	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$ , $t_r \leq 100 \text{ ns}$	$F = 60 \text{ Hz}$	$T_j = 125^\circ\text{C}$ 50	A/ $\mu\text{s}$
$I_{GM}$	Peak gate current	$t_p = 20 \mu\text{s}$	$T_j = 125^\circ\text{C}$ 4	A
$P_{G(AV)}$	Average gate power dissipation		$T_j = 125^\circ\text{C}$ 1	W
$T_{stg}$ $T_j$	Storage junction temperature range Operating junction temperature range		- 40 to + 150 - 40 to + 125	°C
$V_{RGM}$	Maximum peak reverse gate voltage (for TN8 & TYN only)		5	V

# STYN212(S) thru STYN1012(S)

## Discrete Thyristors(SCRs)

ELECTRICAL CHARACTERISTICS (T<sub>j</sub> = 25°C, unless otherwise specified)

### ■ STANDARD

Symbol	Test Conditions			TYNx08(S)	Unit
I <sub>GT</sub>	V <sub>D</sub> = 12 V    R <sub>L</sub> = 33 W	MIN.		2	mA
		MAX.		25	
V <sub>GT</sub>		MAX.		1.3	V
V <sub>GD</sub>	V <sub>D</sub> = V <sub>DRM</sub> R <sub>L</sub> = 3.3 kW	T <sub>j</sub> = 125°C	MIN.	0.2	V
I <sub>H</sub>	I <sub>T</sub> = 500 mA    Gate open		MAX.	40	mA
I <sub>L</sub>	I <sub>G</sub> = 1.2 I <sub>GT</sub>		MAX.	60	mA
dV/dt	V <sub>D</sub> = 67 % V <sub>DRM</sub> Gate open	T <sub>j</sub> = 125°C	MIN.	500	V/μs
V <sub>TM</sub>	I <sub>TM</sub> = 32 A    t <sub>p</sub> = 380 μs	T <sub>j</sub> = 25°C	MAX.	1.6	V
V <sub>t0</sub>	Threshold voltage	T <sub>j</sub> = 125°C	MAX.	0.77	V
R <sub>d</sub>	Dynamic resistance	T <sub>j</sub> = 125°C	MAX.	23	mW
I <sub>DRM</sub> I <sub>RRM</sub>	V <sub>DRM</sub> = V <sub>RRM</sub>	T <sub>j</sub> = 25°C	MAX.	5	μA
		T <sub>j</sub> = 125°C		2	mA

### THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R <sub>th(j-c)</sub>	Junction to case (DC)		1.1	°C/W
R <sub>th(j-a)</sub>	Junction to ambient		TO-220AB	°C/W
		S = 1.0 cm <sup>2</sup>	TO-263	

S= copper surface under tab

### PRODUCT SELECTOR

Part Number	Voltage (xxx)	Sensitivity	Package
STYNx16S	200~~1000	15 mA	TO-263
STYNx16	200~~1000	15 mA	TO-220AB

### OTHER INFORMATION

Part Number	Marking	Weight	Base Quantity	Packing mode
STYNx16S	STYNx16S	0.5 g	50	Tube
STYNx16	STYNx16	2.3 g	250	Bulk

Note: x = voltage