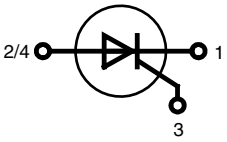
High Voltage Phase Control Thyristor

V_{DRM} = 2500 V
I_{TSM} = 200 A



TO-268 AA (D³Pak)

4 = Backside = Anode

Thyristor				
Symbol	**Conditions**		**Maximum Ratings**	
V_{DRM}			2500	V
V_{DSM}			2500	V
$V_{RRM / RSM}$			1650	V
I_{TSM}	sine 180°; t = 10 ms; V_R = 0 V; T_{VJ} = 25°C		200	A
$(di/dt)_{cr}$	f = 50 Hz; t_p = 200 µs; V_D = 2000 V di_G/dt = 0.45 A/µs; I_G = 0.45 A non repetitive; I_T = 45 A		150	A/µs
$(dv/dt)_{cr}$	V_D = 2200 V R_{GK} = ∞; method 1 (linear voltage rise)		5000	V/µs

Symbol	Conditions		Characteristic Values		
			min.	max.	
V_T	I_T = 45 A	T_{VJ} = 25°C		3.0	V
V_{GT}	V_D = 6 V	T_{VJ} = 25°C		2.5	V
I_{GT}				250	mA
V_{GD}	V_D = $^2/_3$ V_{DRM}	T_{VJ} = 25°C		0.2	V
I_{GD}				5	mA
I_L	t_p = 10 µs; V_D = 6 V I_G = 0.45 A; di_G/dt = 0.45 A/µs	T_{VJ} = 0°C		700	mA
I_H	V_D = 6 V; R_{GK} = ∞	T_{VJ} = 0°C		300	mA
		T_{VJ} = 70°C	55		mA
t_q	I_T = 20 A; t_p = 300 µs; di/dt = -20 A/µs V_R = 10 V; dv/dt = 20 V/µs V_D = 800 V	T_{VJ} = 70°C		100	µs
$I_{RRM / DRM}$	V_R = V_{RRM}; V_D = V_{DRM}	T_{VJ} = 25°C		50	µA
		T_{VJ} = 70°C		200	µA
$I_{DSM / RSM}$	V_R = V_{RSM}; V_D = V_{DSM}	T_{VJ} = 70°C		2	mA
R_{thJC}				0.80	K/W

Features

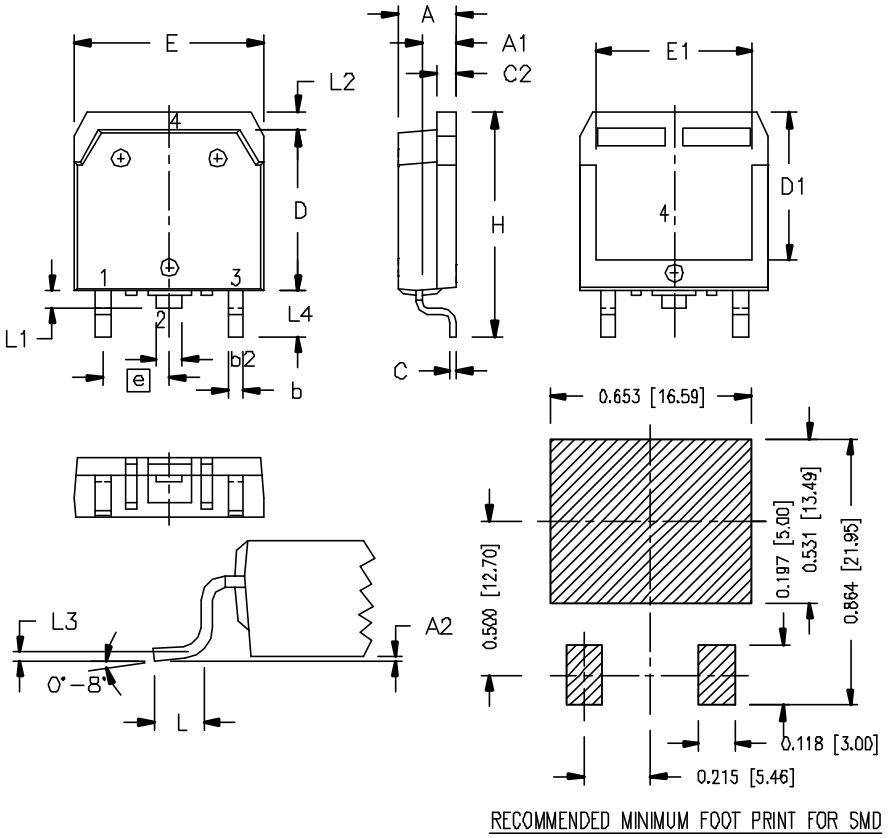
- high voltage thyristor
  - for line frequency
  - chip technology for long term stability
  - planar glass passivated
- International standard package JEDEC TO-268
- Epoxy meets UL 94V-0

Applications

- controlled rectifiers
  - power supplies
  - drives
- AC switches
- capacitor discharge control
  - flash tubes
  - X-ray and laser generators

Component		
Symbol	**Conditions**	**Maximum Ratings**
T_{VJ}		-10 ... +70 °C
T_{stg}		-40 ... +70 °C
F_C	Mounting force with clip	20...120 N

Symbol	**Conditions**	**Characteristic Values**			
		min.	**typ.**	**max.**	
R_{thCH}	with heatsink compound		0.15		K/W
Weight			5		g



Dim.	Millimeter		Inches	
	min	max	min	max
A	4.90	5.10	0.193	0.201
A1	2.70	2.90	0.106	0.114
A2	0.02	0.25	0.001	0.100
b	1.15	1.45	0.045	0.057
b2	1.90	2.10	0.075	0.083
C	0.40	0.65	0.016	0.026
C2	1.45	1.60	0.057	0.063
D	13.80	14.00	0.543	0.551
D1	12.40	12.70	0.488	0.500
E	15.85	16.05	0.624	0.632
E1	13.30	13.60	0.524	0.535
e	5.45 BSC		0.215 BSC	
H	18.70	19.10	0.736	0.752
L	2.40	2.70	0.094	0.106
L1	1.20	1.40	0.047	0.055
L2	1.00	1.15	0.039	0.045
L3	0.25 BSC		0.100 BSC	
L4	3.80	4.10	0.150	0.161