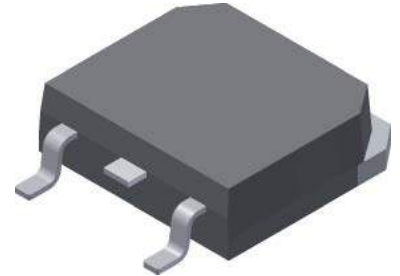
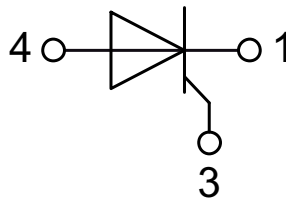


# High Voltage Phase Control Thyristor

$$V_{\text{DRM}} = 2500 \text{ V}$$
$$I_{\text{TSM}} = 200 \text{ A}$$



Backside = anode



### Features / Advantages:

- high voltage thyristor
  - for line frequency
  - chip technology for long term stability
  - planar glass passivated

### Applications:

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

### Package: TO-268AA (D<sup>3</sup>Pak)

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0

### Disclaimer Notice

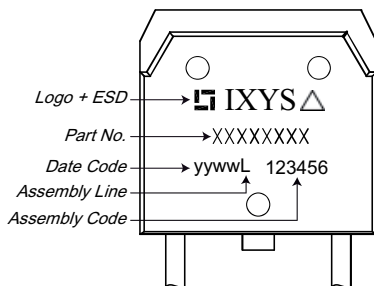
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Rectifier			Ratings			
Symbol	Definitions	Conditions	min.	typ.	max.	Unit
$V_{DRM/DSM}$	max. repetitive/non-repetitive forward blocking voltage				2500	V
$V_{RRM/RSM}$	max. repetitive/non-repetitive reverse blocking voltage				1650	V
$I_{RRM/DRM}$	max. repetitive off-state current	$V_R = V_{RRM}$ $V_D = V_{DRM}$			50 200	$\mu$ A $\mu$ A
$I_{DSM/RSM}$	max. non-repetitive off-state current	$V_R = V_{RSM}; V_D = V_{DSM}$			2	mA
$I_{TSM}$	max. forward surge current	$t = 10$ ms, sine; $V_R = 0$ V			200	A
$(di/dt)_{cr}$	critical rate of rise of current	$f = 50$ Hz; $t_p = 200$ $\mu$ s; $V_D = 2000$ V $di_G/dt = 0.45$ A/ $\mu$ s; $I_G = 0.45$ A non repetitive; $I_T = 45$ A			150	A/ $\mu$ s
$(dv/dt)_{cr}$	critical rate of rise of voltage	$V_D = 2200$ V $R_{GK} = \infty$ ; method 1 (linear voltage rise)			5000	V/ $\mu$ s
$V_T$	forward voltage drop	$I_T = 45$ A			3.0	V
$V_{GT}$ $I_{GT}$	gate trigger voltage gate trigger current	$V_D = 6$ V			2.5 250	V mA
$V_{GD}$ $I_{GD}$	gate non-trigger voltage gate non-trigger current	$V_D = 2/3 V_{DRM}$			0.2 5	V mA
$I_L$	latching current	$t_p = 10$ $\mu$ s; $V_D = 6$ V $I_G = 0.45$ A; $di_G/dt = 0.45$ A/ $\mu$ s			700	mA
$I_H$	holding current	$V_D = 6$ V; $R_{GK} = \infty$			300	mA
$t_q$	turn-off time	$V_R = 10$ V; $I_T = 20$ A; $V_D = 800$ V $di/dt = -20$ A/ $\mu$ s; $dv/dt = 20$ V/ $\mu$ s $t_p = 300$ $\mu$ s			100	$\mu$ s
$R_{thJC}$	thermal resistance junction to case				0.8	K/W
$R_{thCH}$	thermal resistance case to heatsink				0.15	K/W

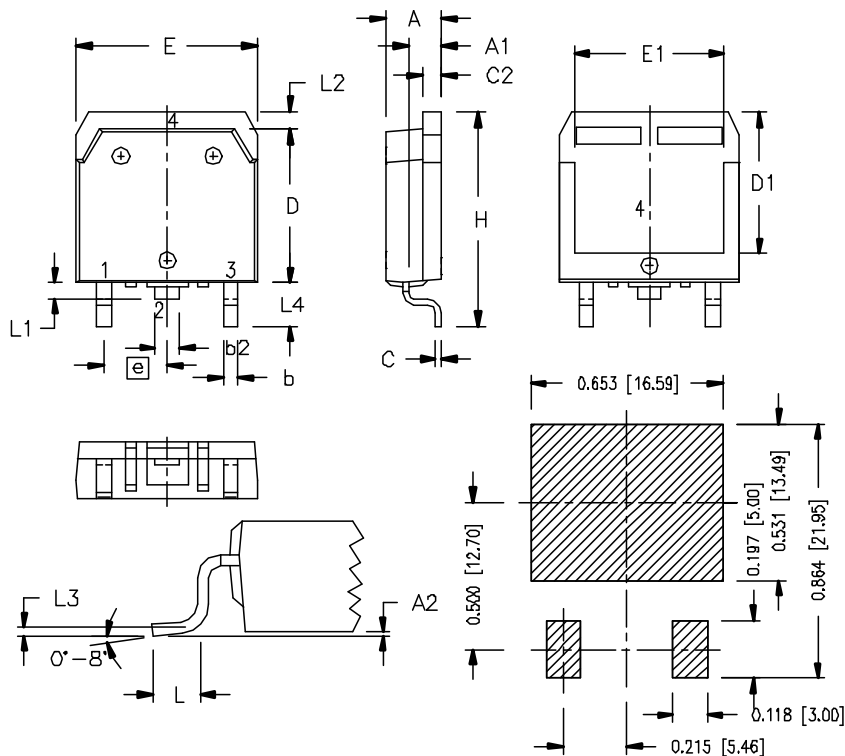
Package TO-268AA (D <sup>3</sup> Pak)			Ratings			
Symbol	Definitions	Conditions	min.	typ.	max.	Unit
$I_{RMS}$	RMS current	per terminal			70	A
$T_{VJ}$	virtual junction temperature		-10		70	°C
$T_{op}$	operation temperature		-10		70	°C
$T_{stg}$	storage temperature		-40		70	°C
<b>Weight</b>				4		g
$F_c$	mounting force with clip		20		120	N
$d_{Spp/App}$	creepage distance on surface / striking distance through air	terminal to terminal	9.4			mm
$d_{Spb/Appb}$		terminal to backside	5.6			mm

### Product Marking



Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	CS20-25moT1-TUB	CS20-25moT1	Tube	30	CS20-25moT1-TUB

### Outlines TO-268AA (D<sup>3</sup>Pak)



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

RECOMMENDED MINIMUM FOOT PRINT FOR SMD