



# Technical Data : AD-032

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## POSITIONING PSTA750 - Standard Rectifier

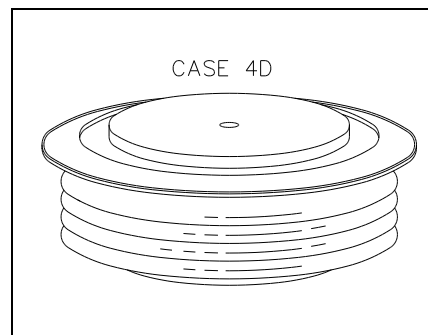
2500 - 3000 V<sub>RRM</sub>; 1800 A avg

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### GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

#### Features:

- . All Diffused Structure
- . High Surge rating
- . Blocking capability up to 3000 volts
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device



### ELECTRICAL CHARACTERISTICS AND RATINGS

#### Reverse Blocking

Device Type	V <sub>RRM</sub> (1)	V <sub>RSM</sub> (1)
PSTA750LE	2500	2600
PSTA750LM	2600	2700
PSTA750LS	2700	2800
PSTA750LN	2800	2900
PSTA750LT	2900	3000
PSTA752	4400	4500

V<sub>RRM</sub> = Repetitive peak reverse voltage

V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage	I <sub>RRM</sub>	100mA (3)
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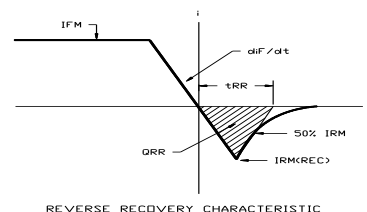
Notes:

All ratings are specified for T<sub>j</sub>=25 °C unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +175 °C.

(2) 10 msec. max. pulse width

(3) Maximum value for T<sub>j</sub> = 160 °C.



REVERSE RECOVERY CHARACTERISTIC

#### Conducting - on state

Parameter	Symbol	Min.	Max.	Typ	Units	Conditions
Average value of on-state current	I <sub>F(AV)</sub>		2300		A	Sinewave, 180° conduction, T <sub>c</sub> = 70°C
RMS value of on-state current	I <sub>FRMS</sub>		3600		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		25000		A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 175 °C
			22000		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 175 °C
I square t	I <sup>2</sup> t		2.6x10 <sup>6</sup>		A <sup>2</sup> s	8.3 msec and 10 msec
Peak on-state voltage	V <sub>FM</sub>		1.70		V	I <sub>FM</sub> = 3000 A; T <sub>j</sub> = 160 °C
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>		250		A	I <sub>FM</sub> = 1000 A; dI <sub>F</sub> /dt = 10 A/μs, T <sub>j</sub> = 160 °C
Reverse Recovery Charge (4)	Q <sub>rr</sub>		*		μC	
Reverse Recovery Time (4)	t <sub>RR</sub>		*		μs	

\* For guaranteed maximum values, contact factory

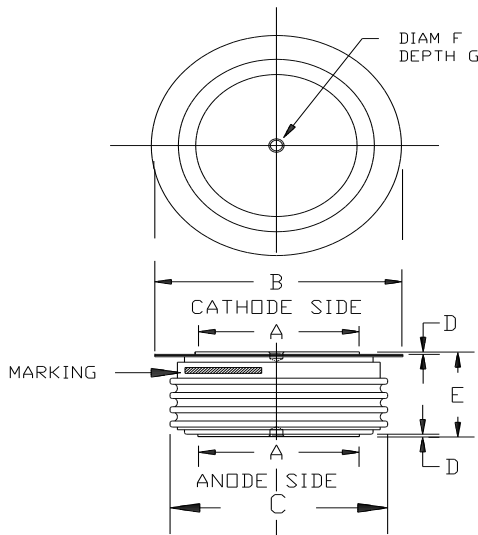
**THERMAL AND MECHANICAL CHARACTERISTICS**  
**Rectifier**

**PSTA750 - Standard**

Parameter	Symb ol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T <sub>j</sub>	-40	+175		°C	
Storage temperature	T <sub>stg</sub>	-40	+175		°C	
Thermal resistance - junction to case	R <sub>θ(j-c)</sub>		0.023 0.046		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	R <sub>θ(c-s)</sub>		.010 .020		°C/W	Double sided cooled * Single sided cooled *
Mounting force	P	5000 22.3	6000 26.7		lb. kN	
Weight	W			16 460	oz. g	

\* Mounting surfaces smooth, flat and greased

**CASE OUTLINE AND DIMENSIONS**



DIMENSIONS	Min. mm	Max. mm	Min. In.	Max. In.
DIAM A	43.18	48.26	1.70	1.90
DIAM B	63.50	75.18	2.50	2.96
DIAM C	--	67.31	--	2.65
D	0.76	--	0.03	--
E	25.40	27.18	1.00	1.07
F	3.30	3.81	0.13	0.15
G	1.78	2.03	0.07	0.08

STRIKE DISTANCE = .73 INCH / 18.5 MM MIN.  
CREEPAGE DISTANCE = 1.17 INCH / 29.7 MM MIN.

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