



Technical Data : AD-030

POSITIONING PSTA696 - Fast Recovery Rectifier

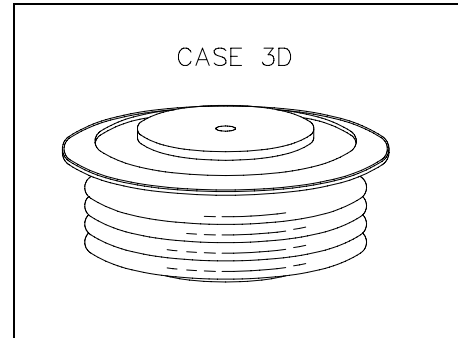
1500 - 2000

V_{RRM} ; 1000 A avg

HIGH POWER FAST RECOVERY RECTIFIER

Features:

- . All Diffused Structure
- . Fast Switching Performance
- . Blocking capability up to 2000 volts
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

Device Type	V_{RRM} (1)	V_{RSM} (1)
PSTA696PE	1500	1600
PSTA696PM	1600	1700
PSTA696PS	1700	1800
PSTA696PN	1800	1900
PSTA696PT	1900	2000
PSTA696L	2000	2100

V_{RRM} = Repetitive peak reverse voltage

V_{RSM} = Non repetitive peak reverse voltage (2)

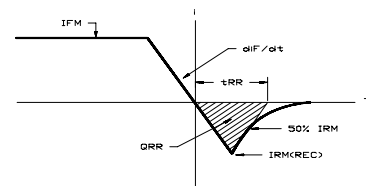
Repetitive peak reverse leakage	I_{RRM}	20 mA 50 mA (3)
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Notes:

All ratings are specified for $T_j=25^\circ\text{C}$ unless otherwise stated.

(1) All voltage ratings are specified for an applied

50Hz/60Hz sinusoidal waveform over the



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ	Units	Conditions
Average value of on-state current	$I_{F(AV)}$		1000		A	Sinewave, 180° conduction, $T_c = 78^\circ\text{C}$
RMS value of on-state current	I_{FRMS}		1600		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		14000 13000		A A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125^\circ\text{C}$ 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, $T_j = 125^\circ\text{C}$
I square t	I^2t		815000		A^2s	8.3 msec and 10.0 msec

Peak on-state voltage	V_{FM}		3.00		V	$I_{FM} = 3200 \text{ A}$; Duty cycle $\leq 0.01\%$; $T_j \text{ max}$
Reverse Recovery Current (4)	$I_{RM(REC)}$		80		A	$I_{FM} = 1000 \text{ A}$; $dI_F/dt = 25 \text{ A}/\mu\text{s}$; $T_j \text{ max}$
Reverse Recovery Charge (4)	Q_{rr}		*	200	μC	$I_{FM} = 1000 \text{ A}$; $dI_F/dt = 25 \text{ A}/\mu\text{s}$; $T_j \text{ max}$
Reverse Recovery Time (4)	t_{RR}		*		μs	

* For guaranteed maximum values, contact factory

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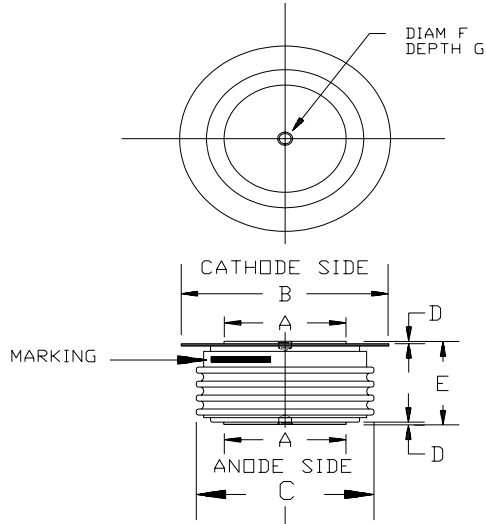
THERMAL AND MECHANICAL CHARACTERISTICS Rectifier

PSTA696 - Fast Recovery

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		$^{\circ}\text{C}$	
Storage temperature	T_{stg}	-40	+125		$^{\circ}\text{C}$	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.043 0.086		$^{\circ}\text{C}/\text{W}$	Double sided cooled Single sided cooled
Thermal resistance - case to sink	$R_{\theta(c-s)}$.015 .030		$^{\circ}\text{C}/\text{W}$	Double sided cooled * Single sided cooled *
Mounting force	P	3500 15.5	4500 19.9		lb. kN	
Weight	W			9 225	oz. g	

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



OUTLINE DIMENSIONS - CASE 3D				
DIMENSIONS	Min. mm	Max. mm	Min. In.	Max. In.
DIAM A	33.02	34.29	1.30	1.35
DIAM B	55.88	63.50	2.20	2.50
DIAM C	--	54.61	--	2.15
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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