

POSITIONING PSTA696 - Fast Recovery Rectifier

1000 A avg

HIGH POWER FAST RECOVERY RECTIFIER

Features:

- . All Diffused Structure
- . Fast Switching Performance
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device

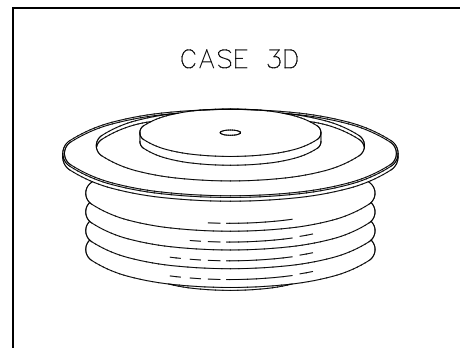
ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

Device Type	V _{RRM} (1)	V _{RSM} (1)
PSTA696LE	2500	2600

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

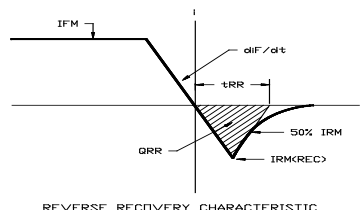
Repetitive peak reverse leakage	I _{RRM}	20 mA 50 mA (3)
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Notes:

All ratings are specified for T_j=25 °C unless otherwise stated.

- (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +125 °C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T_j = 125 °C.



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 °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 °C 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j = 125 °C
I square t	I ² t		815000		A ² s	8.3 msec and 10.0 msec
Peak on-state voltage	V _{FM}		4.00		V	I _{FM} = 1000 A; Duty cycle ≤ 0.01%; T _j max
Reverse Recovery Current (4)	I _{RM(REC)}		80		A	I _{FM} = 1000 A; dI _F /dt = 25 A/μs; T _j max
Reverse Recovery Charge (4)	Q _{rr}		*	200	μC	I _{FM} = 1000 A; dI _F /dt = 25 A/μs; T _j max
Reverse Recovery Time (4)	t _{RR}		*	3	μs	

* For guaranteed maximum values, contact factory

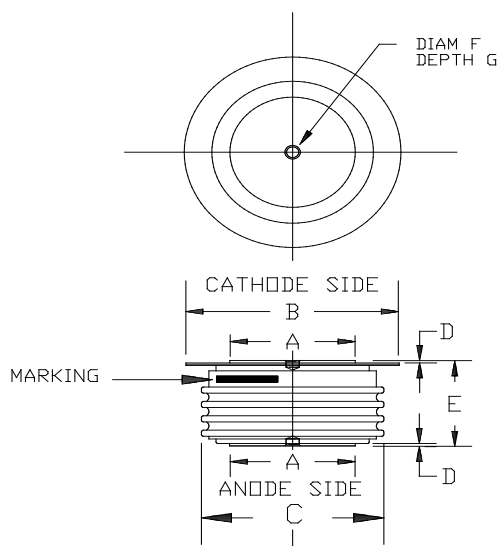
THERMAL AND MECHANICAL CHARACTERISTICS
Rectifier

PSTA696 - Fast Recovery

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+125		°C	
Storage temperature	T_{stg}	-40	+125		°C	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.043 0.086		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	$R_{\theta(c-s)}$		.015 .030		°C/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.