



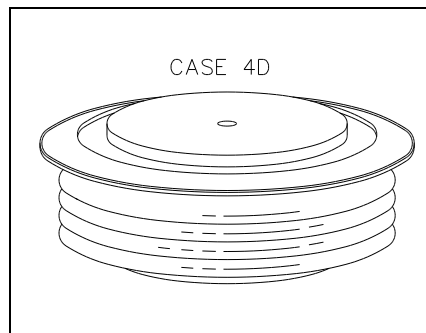
POSITIONING PSTA796 - Fast Recovery Rectifier

1500 - 2400 V_{RRM} ; 925 A avg

HIGH POWER FAST RECOVERY RECTIFIER

Features:

- . All Diffused Structure
- . Fast Switching Performance
- . Blocking capability up to 2400 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)
PSTA796PE	1500	1600
PSTA796PM	1600	1700
PSTA796PN	1800	1900
PSTA796L	2000	2100
PSTA796LB	2200	2300
PSTA796LD	2400	2500

V_{RRM} = Repetitive peak reverse voltage

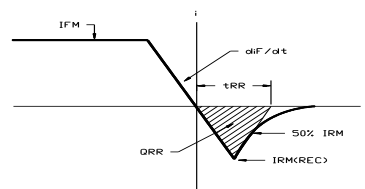
V_{RSM} = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage	I_{RRM}	10 mA 75 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 temperature range -40 to $+150^\circ\text{C}$.
- (2) 10 msec. max. pulse width
- (3) Maximum value for $T_j = 150^\circ\text{C}$.



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min	Max.	Typ	Units	Conditions
Average value of on-state current	$I_{F(AV)}$		925		A	Sinewave, 180° conduction, $T_c = 70^\circ\text{C}$
RMS value of on-state current	I_{FRMS}		1450		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		18000 16000		A A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, $T_j = 150^\circ\text{C}$ 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, $T_j = 150^\circ\text{C}$
I square t	I^2t		1.3×10^6		A^2s	8.3 msec and 10 msec
Peak on-state voltage	V_{FM}		2.65		V	$I_{FM} = 2900$ A; Duty cycle $\leq 0.01\%$; T_{jmax}
Reverse Recovery Current (4)	$I_{RM(REC)}$		45		A	$I_{FM} = 1000$ A; $dI_F/dt = 10$ A/ μs ; T_{jmax}
Reverse Recovery Charge (4)	Q_{rr}		200		μC	$I_{FM} = 1000$ A; $dI_F/dt = 10$ A/ μs ; T_{jmax}
Reverse Recovery Time (4)	t_{RR}		*		μs	

* For guaranteed maximum values, contact factory

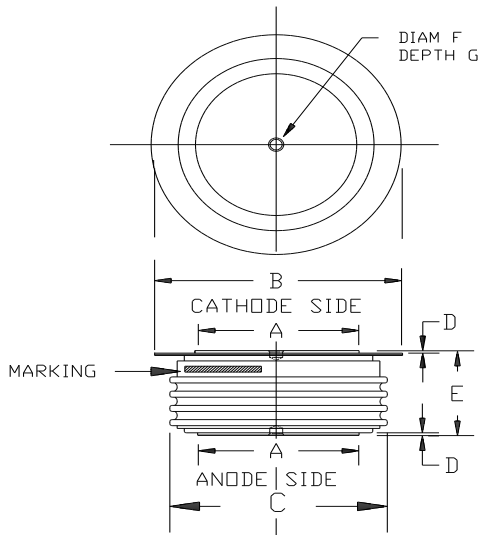
THERMAL AND MECHANICAL CHARACTERISTICS
Rectifier

PSTA796 - Fast Recovery

Parameter	Symb ol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T _j	-40	+150		°C	
Storage temperature	T _{stg}	-40	+150		°C	
Thermal resistance - junction to case	R _{θ(j-c)}		0.023 0.046		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	R _{θ(c-s)}		.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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