

P O S I T I O N I N G P S T A 6 4 2 - S t a n d a r d R e c t i f i e r

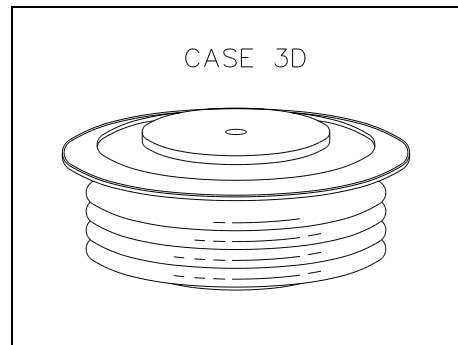
2800 - 3500 V_{RRM};

1200 A avg

GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

Features:

- . All Diffused Structure
- . High Surge rating
- . Blocking capability up to 3500 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)
PSTA642LN	2800	2900
PSTA642CP	3000	3100
PSTA642CA	3100	3200
PSTA642CB	3200	3300
PSTA642CC	3300	3400
PSTA642CD	3400	3500
PSTA642CE	3500	3600

V_{RRM} = Repetitive peak reverse voltage

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

Repetitive peak reverse leakage	I _{RRM}	10 mA 50 mA (3)
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Notes:

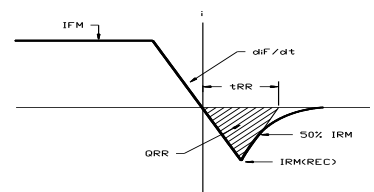
All ratings are specified for T_j=25 °C unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +170 °C.

(2) 10 msec. max. pulse width

(3) Maximum value for T_j = 170 °C.

(4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

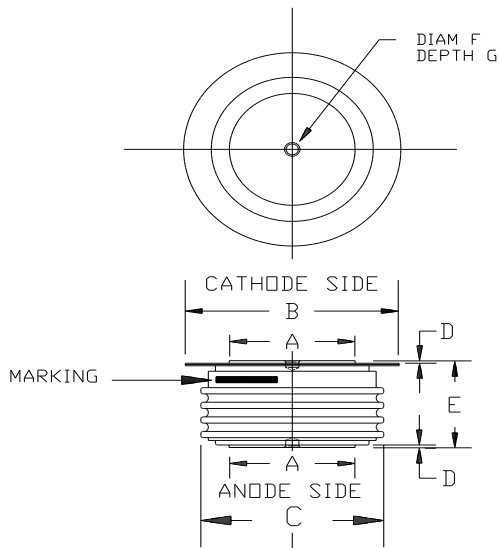
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average value of on-state current	I _{F(AV)}		1200		A	Sinewave, 180° conduction, T _c = 85°C
RMS value of on-state current	I _{FRMS}		1900		A	Nominal value
Peak one cycle surge (non repetitive) current	I _{FSM}		13000		A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T _j = 170 °C
			12000		A	10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j = 170 °C
I square t	I ² t		700,000		A ² s	8.3 msec and 10.0 msec
Peak on-state voltage	V _{FM}		1.20		V	I _{FM} = 1000 A; 160 °C
Reverse Recovery Current (4)	I _{RM(REC)}		*	170	A	I _{FM} = 1000 A; dI _F /dt = 10 A/μs
Reverse Recovery Charge (4)	Q _{rr}		*		μC	
Reverse Recovery Time (4)	t _{RR}		*		μs	

THERMAL AND MECHANICAL CHARACTERISTICS **PSTA642 - Standard Rectifier**

Parameter	Symb ol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T _j	-40	+170		°C	
Storage temperature	T _{stg}	-40	+170		°C	
Thermal resistance - junction to case	R _{θ(j-c)}		0.040 0.080		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	R _{θ(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.



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.