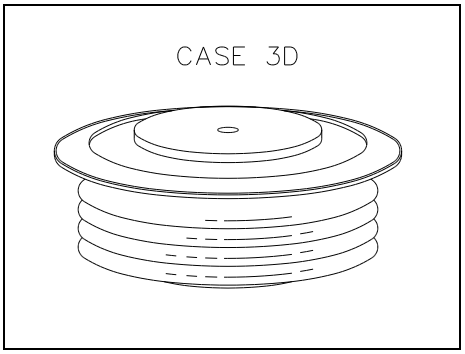
P O S I T I O N I N G PSTA540 - Standard Rectifier

1500 - 2600 V_{RRM};

1000 A avg

****

GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER



Features:

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

ELECTRICAL CHARACTERISTICS AND RATINGS

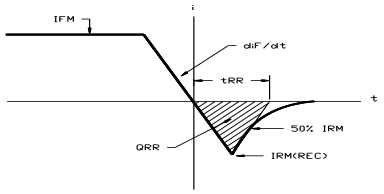
Reverse Blocking

Device Type	V_{RRM} (1)	V_{RSM} (1)
PSTA540PE	1500	1600
PSTA540PM	1600	1700
PSTA540PN	1800	1900
PSTA540L	2000	2100
PSTA540LB	2200	2300
PSTA540LD	2400	2500
PSTA540LM	2600	2700

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)

Notes:
All ratings are specified for Tj=25 °C unless otherwise stated.
(1) All voltage ratings are specified for an applied 50Hz/60zHz sinusoidal waveform over the temperature range -40 to +200 °C.
(2) 10 msec. max. pulse width
(3) Maximum value for Tj = 200 °C.
(4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

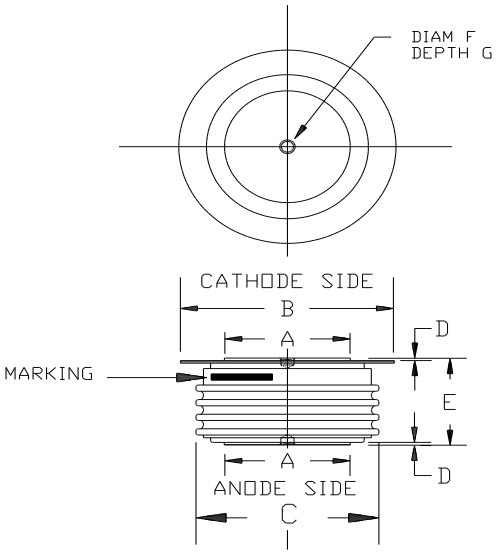
Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average value of on-state current	$I_{F(AV)}$		1000		A	Sinewave,180° conduction,T_c =90°C
RMS value of on-state current	I_{FRMS}		1600		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		12000 11000		A A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T_j = 200 °C 10.0 msec (50Hz), sinusoidal wave-shape, 180° conduction, T_j = 200 °C
I square t	I^2t		600000		A^2s	8.3 msec and 10.0 msec
Peak on-state voltage	V_{FM}		1.75		V	I_{FM} = 3200 A; Duty cycle ≤ 0.01%
Reverse Recovery Current (4)	$I_{RM(REC)}$		*		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 PSTA540 - Standard Rectifier

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+200		°C	
Storage temperature	T_{stg}	-40	+200		°C	
Thermal resistance - junction to case	$R_{\theta (j-c)}$		0.040 0.080		°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.