

# ZP2000- RECTIFIER DIODE

Shanghai Sunco Electronics Co., Ltd.

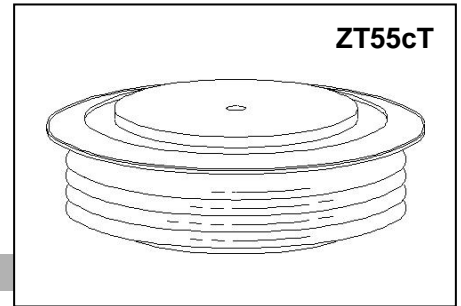
1800-2400V  
RRM

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## GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

### Features:

- . All Diffused Structure
- . High Surge rating
- . Blocking capability up to 2400 volts
- . Ceramic Housing Hermetic Package
- . Pressure Assembled Device



## ELECTRICAL CHARACTERISTICS AND RATINGS

### Reverse Blocking

Device Type	V <sub>RRM</sub> (1)	V <sub>RSM</sub> (1)
ZP2000-18	1800	2000
ZP2000-20	2000	2200
ZP2000-22	2200	2400

V<sub>RRM</sub> = Repetitive peak reverse voltage

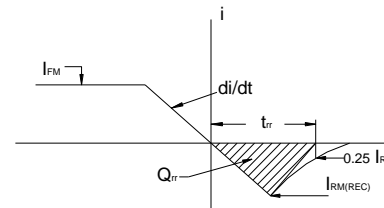
V<sub>RSM</sub> = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage	I <sub>RRM</sub>	5 mA 70 mA (3)
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### Notes:

All ratings are specified for T<sub>j</sub>=25 °C unless otherwise stated.

- (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range 0 to +175 °C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T<sub>j</sub> = 175 °C.
- (4) See parameter definition below :



REVERSE RECOVERY CHARACTERIST

### Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I <sub>F(AV)</sub>		2000		A	Sinewave, 180°, T <sub>c</sub> =100°C
RMS forward current	I <sub>FRMS</sub>		3140		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		24000		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 175 °C
I square t	I <sup>2</sup> t		2.9 × 10 <sup>6</sup>		A <sup>2</sup> s	10 msec
Peak forward voltage	V <sub>FM</sub>		1.45		V	I <sub>FM</sub> = 3000A; T <sub>j</sub> =25°C
Threshold voltage	V <sub>FO</sub>		0.82		V	T <sub>j</sub> =175°C, I=0.5 π I <sub>F(AV)</sub> to 1.5 π I <sub>F(AV)</sub>
Slope resistance	r <sub>F</sub>		0.16		mΩ	T <sub>j</sub> =175°C, I=0.5 π I <sub>F(AV)</sub> to 1.5 π I <sub>F(AV)</sub>
Reverse Recovery Current (4)	I <sub>RM(REC)</sub>				A	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>j</sub> max
Reverse Recovery Charge (4)	Q <sub>rr</sub>			4000	μC	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>j</sub> max
Reverse Recovery Time (4)	t <sub>rr</sub>				μs	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>j</sub> max

**THERMAL AND MECHANICAL CHARACTERISTICS**

**ZP2000-Rectifier Diode**

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	$T_j$	-40	+175		°C	
Storage temperature	$T_{stg}$	-40	+175		°C	
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.022		°C/W	Double sided cooled
Thermal resistance - case to heatsink	$R_{\Theta(c-s)}$		0.005		°C/W	Double sided cooled
Mounting force	P	22	27	25	kN	
Weight	W			0.46	kg.	

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

