

# ZP3400 - RECTIFIER DIODE

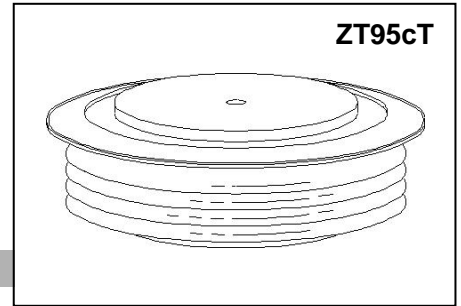
Shanghai Sunco Electronics Co., Ltd.

4600-5200V<sub>RRM</sub>

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**GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER**

**Features:**

- . All Diffused Structure
- . High Surge rating
- . Blocking capability up to 5200 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)
ZP3400-46	4600	4800
ZP3400-48	4800	5000
ZP3400-50	5000	5200
ZP3400-52	5200	5400

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 200 mA (3)
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Notes:

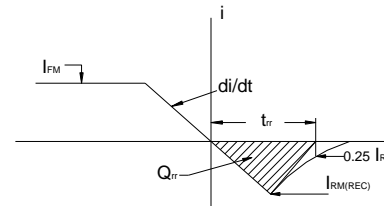
All ratings are specified for T<sub>j</sub>=25 °C unless otherwise stated.

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range 0 to +150°C.

(2) 10 msec. max. pulse width

(3) Maximum value for T<sub>j</sub> = 150°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>		3400		A	Sinewave, 180°, T <sub>c</sub> =90°C
RMS forward current	I <sub>FRMS</sub>		5338		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		51000		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 150 °C
I square t	I <sup>2</sup> t		1.3 × 10 <sup>7</sup>		A <sup>2</sup> s	10 msec
Peak forward voltage	V <sub>FM</sub>		1.50		V	I <sub>FM</sub> = 5000A; T <sub>j</sub> =25°C
Threshold voltage	V <sub>FO</sub>		0.96		V	T <sub>j</sub> =150°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>		0.09		mΩ	T <sub>j</sub> =150°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>jmax</sub>
Reverse Recovery Charge (4)	Q <sub>rr</sub>			7000	μC	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>jmax</sub>
Reverse Recovery Time (4)	t <sub>rr</sub>				μs	I <sub>FM</sub> = 500 A; di/dt = -10 A/s; T <sub>jmax</sub>

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	$T_j$	-40	+150		°C	
Storage temperature	$T_{stg}$	-40	+150		°C	
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.008		°C/W	Double sided cooled
Thermal resistance - case to heatsink	$R_{\Theta(c-s)}$		0.002		°C/W	Double sided cooled
Mounting force	P	55	65	60	kN	
Weight	W			1.40	kg.	

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

