

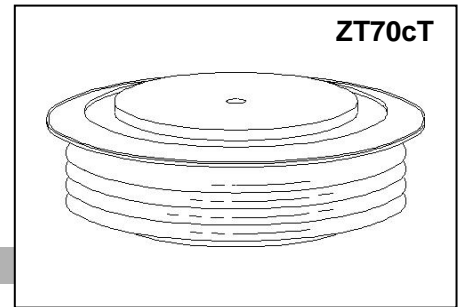


\*\*\*\*\*

**GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER**

**Features:**

- . All Diffused Structure
- . High Surge rating
- . Blocking capability up to 4500 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)
ZP1900-36	3600	3800
ZP1900-38	3800	4000
ZP1900-40	4000	4200
ZP1900-42	4200	4400
ZP1900-45	4500	4700

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 80 mA (3)
---------------------------------	------------------	-------------------

**Notes:**

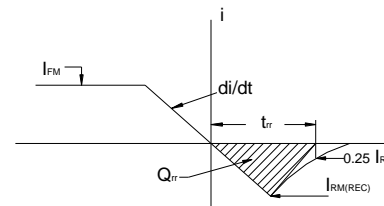
All ratings are specified for T<sub>j</sub>=25 °C unless otherwise stated.

(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>		1900		A	Sinewave, 180°, T <sub>c</sub> =100 °C
RMS forward current	I <sub>FRMS</sub>		2983		A	Nominal value
Peak one cycle surge (non repetitive) current	I <sub>FSM</sub>		28500		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T <sub>j</sub> = 150 °C
I square t	I <sup>2</sup> t		4 × 10 <sup>6</sup>		A <sup>2</sup> s	10 msec
Peak forward voltage	V <sub>FM</sub>		1.7		V	I <sub>FM</sub> = 3000A;T <sub>j</sub> =25°C
Threshold voltage	V <sub>FO</sub>		0.95		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>		0.16		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>			5000	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	$R_{\Theta(j-c)}$		0.0125		°C/W	Double sided cooled
Thermal resistance - case to heatsink	$R_{\Theta(c-s)}$		0.004		°C/W	Double sided cooled
Mounting force	P	30	37	33	kN	
Weight	W			0.85	kg.	

\* Mounting surfaces smooth, flat and greaseless

**CASE OUTLINE AND DIMENSIONS**

