ZP3900- RECTIFIER DIODE

5800-6500V_{RRM}

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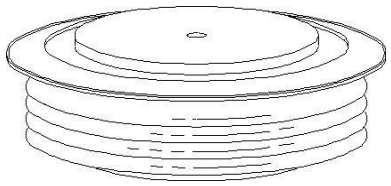
HIGH POWER FREE FLOATING TYPE RECTIFIER DIODE

Features:

. All diffused structure
. High surge rating
. Blocking capability up to 6500 volts
. Ceramic housing hermetic package
. Pressure assembled device

D17D



ELECTRICAL CHARACTERISTICS AND RATINGS

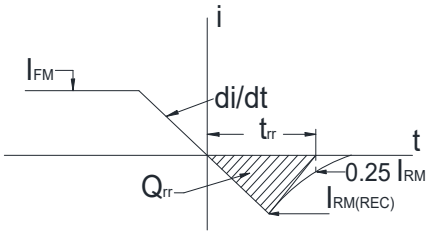
Reverse Blocking

Device Type	V_{RRM} (1)	V_{RSM} (1)
ZP3900-58	5300	5800
ZP3900-60	5500	6000
ZP3900-62	5700	6200
ZP3900-64	5900	6400
ZP3900-65	6000	6500

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

Repetitive peak reverse leakage current	I_{RRM}	5 mA 400 mA (3)

Notes:
All ratings are specified for Tj=25 °C, unless otherwise stated .
(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40°C to +150 °C.
(2) 10 msec. max. pulse width
(3) Maximum value for Tj = 150 °C.
(4) See parameter definition below :



reverse recovery characteristic

Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	$I_{F(AV)}$		3900		A	Sinewave 180°, Tc =100°C
RMS forward current	I_{FRMS}		6123		A	
Peak one cycle surge (non repetitive) current	I_{FSM}		62400		A	10 msec (50Hz), sinusoidal wave-shape, 180° conduction, Tj=150°C
I square t	I^2t		19.4×10^6		A^2s	10 msec
Peak forward voltage	V_{FM}		1.56		V	I_{FM}= 6000A;Tj =150°C
Threshold voltage	V_{FO}		0.84		V	Tj=150°C,I=0.5 π $I_{F(AV)}$ to 1.5 π $I_{F(AV)}$
Slope resistance	r_F		0.12		mΩ	Tj=150°C,I=0.5 π $I_{F(AV)}$ to 1.5 π $I_{F(AV)}$
Reverse Recovery Current (4)	$I_{RM(REC)}$				A	Tj=150°C
Reverse Recovery Charge (4)	Q_{rr}		8000		μC	Tj=150°C
Reverse Recovery Time (4)	t_{rr}				μs	Tj=150°C

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	$R_{\Theta (j-c)}$		0.0057		°C/W	Double sided cooled
Thermal resistance - case to heatsink	$R_{\Theta (c-s)}$		0.0015		°C/W	Double sided cooled
Mounting force	F			90	kN	
Weight	m			2.90	kg.	

* Mounting surfaces smooth, flat and greaseless

Graph

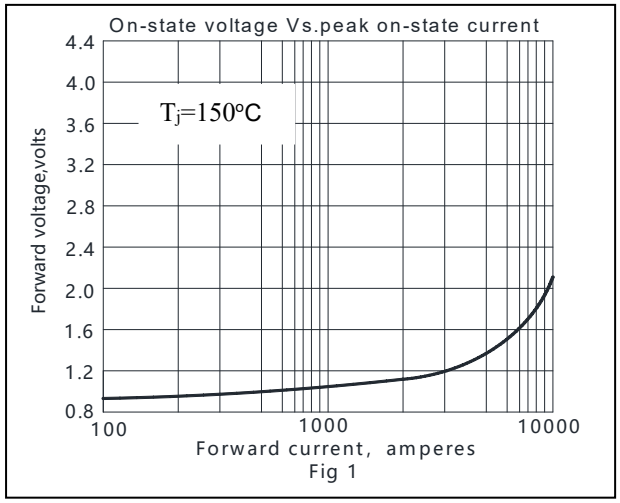


Fig 1

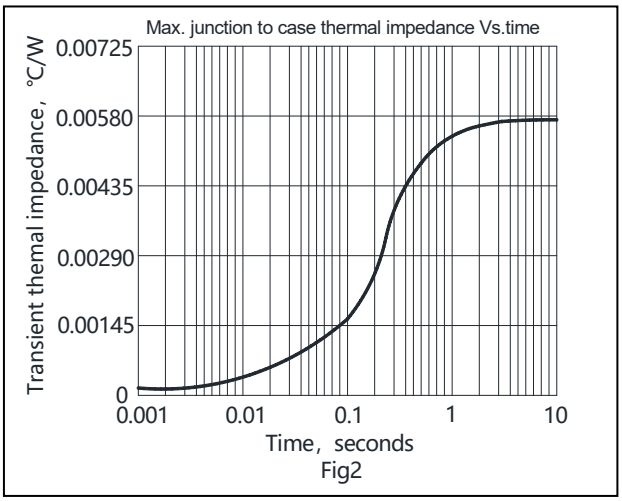


Fig2

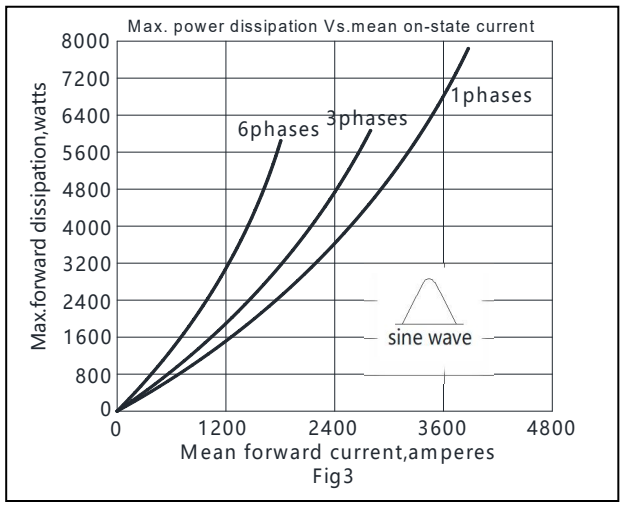


Fig3

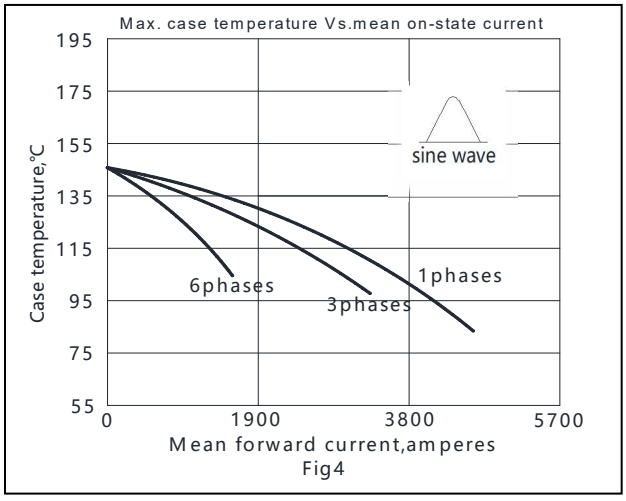


Fig4

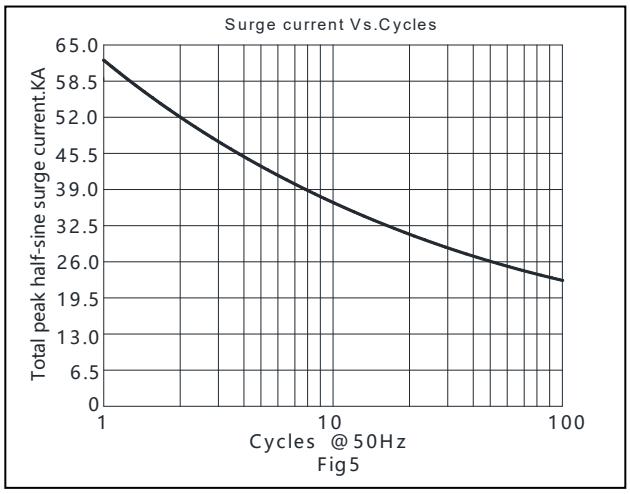


Fig5

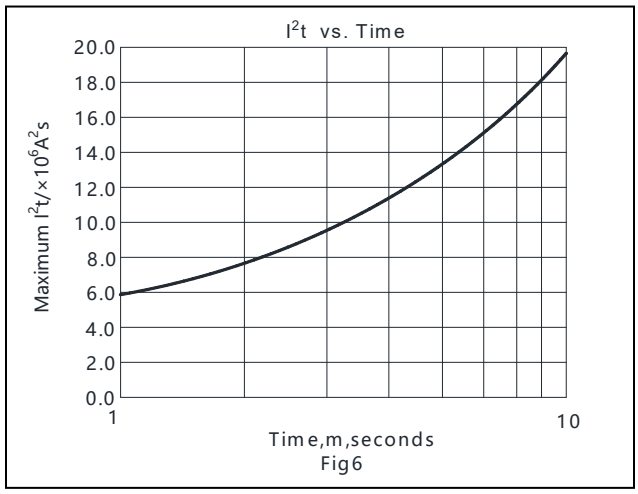


Fig6

CASE OUTLINE AND DIMENSIONS