



High-end Power Semiconductor Manufacturer

## ZP900A 7500-8500V Standard Rectifier Diode

- High power cycling capability
- Low on-state and switching losses
- Optimized for line frequency rectifiers
- Designed for traction and industrial applications



Average forward current				$I_{FAV}$		910 A	
Repetitive peak reverse voltage				$V_{RRM}$		7500 – 8500 V	
$V_{RRM}$ , V	7500	7600	7800	8000	8200	8400	8500
Voltage code	75	76	78	80	82	84	85
$T_j$ , °C	-40 – 160						

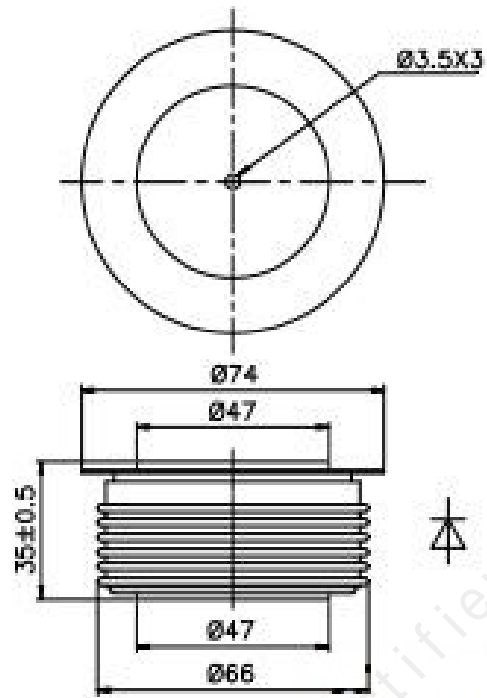
### MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions	
<b>ON-STATE</b>					
$I_{FAV}$	Average forward current	A	910	$T_c=100\text{ }^\circ\text{C}$ ; Double side cooled; 180° half-sine wave; 50 Hz	
$I_{FRMS}$	RMS forward current	A	1429	$T_c=100\text{ }^\circ\text{C}$	
$I_{FSM}$	Surge forward current	kA	16.5	$T_j=T_{j\max}$	180° half-sine wave; ( $t_p=10\text{ ms}$ ); $V_R=0\text{ V}$
$I^2t$	Safety factor	$A^2s\cdot 10^4$	136	$T_j=T_{j\max}$	180° half-sine wave; ( $t_p=10\text{ ms}$ )
<b>BLOCKING</b>					
$V_{RRM}$	Repetitive peak reverse voltages	V	7500-8500	$T_{j\min} < T_j < T_{j\max}$ ; 180° half-sine wave	
$V_{RSM}$	Non-repetitive peak reverse voltages	V	8000-9000	$T_j=25, 150\text{ }^\circ\text{C}$ ; $I_{RRM} \leq 150\text{ mA}$ ; $V_R=V_{RRM}$ ; $t_p=10\text{ ms}$	
<b>THERMAL</b>					
$T_{stg}$	Storage temperature	°C	-40-160		
$T_j$	Operating junction temperature	°C	-40-150		
<b>MECHANICAL</b>					
F	Mounting force	kN	22.0		

## CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions
<b>ON-STATE</b>				
$V_{FM}$	Peak forward voltage, max	V	1.85	$T_j=25\text{ }^\circ\text{C}; I_{TM}=1500\text{ A}$
$V_{F(TO)}$	Forward threshold voltage, max	V	1.25	$T_j=T_{j\text{ max}}$
$r_T$	Forward slope resistance, max	m $\Omega$	0.550	
<b>BLOCKING</b>				
$I_{RRM}$	Repetitive peak reverse current, max	mA	150	$T_j=T_{j\text{ max}};$ $V_R=V_{RRM}$
<b>THERMAL</b>				
$R_{thjc}$	Thermal resistance, junction to case, max	$^\circ\text{C/W}$	0.020	
$R_{thck}$	Thermal resistance, case to heatsink, max	$^\circ\text{C/W}$	0.005	
<b>MECHANICAL</b>				
w	Weight, typ	g	600	

OVERALL DIMENSIONS



ZT55DT

All dimensions in millimeters

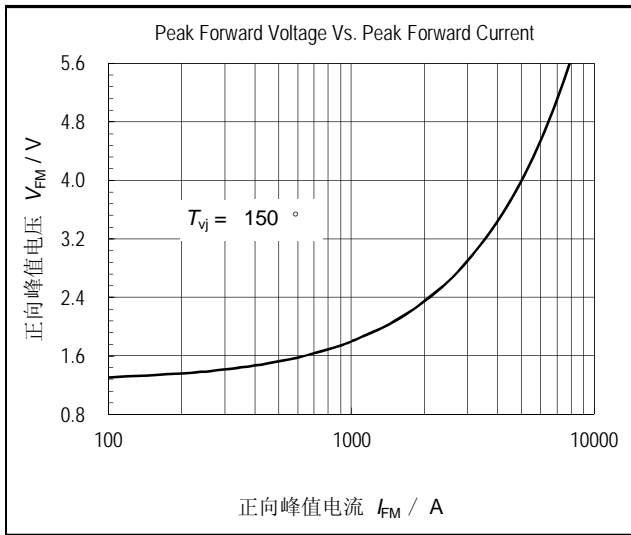


图1. 正向伏安特性曲线

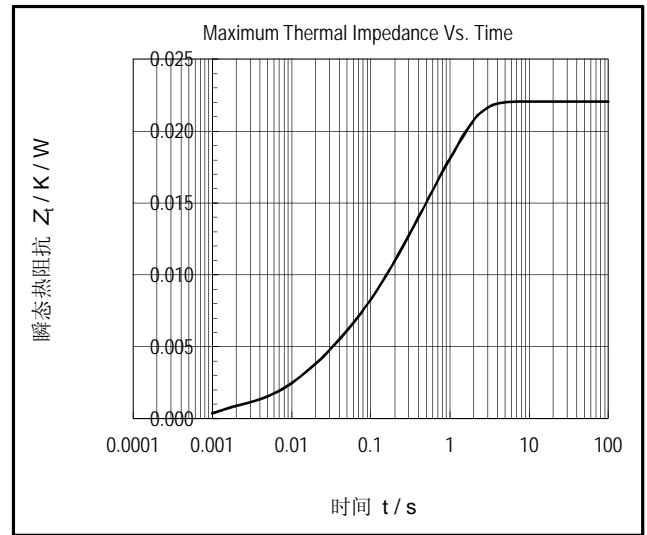


图2. 瞬态热阻抗曲线

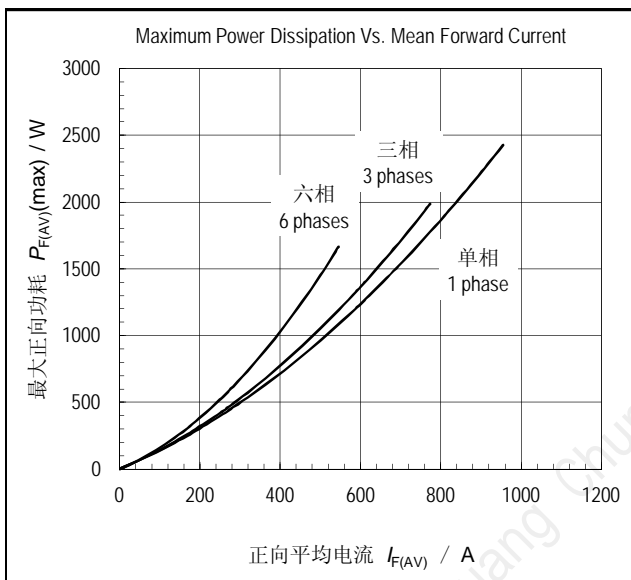


图3. 最大正向功耗与正向平均电流的关系曲线

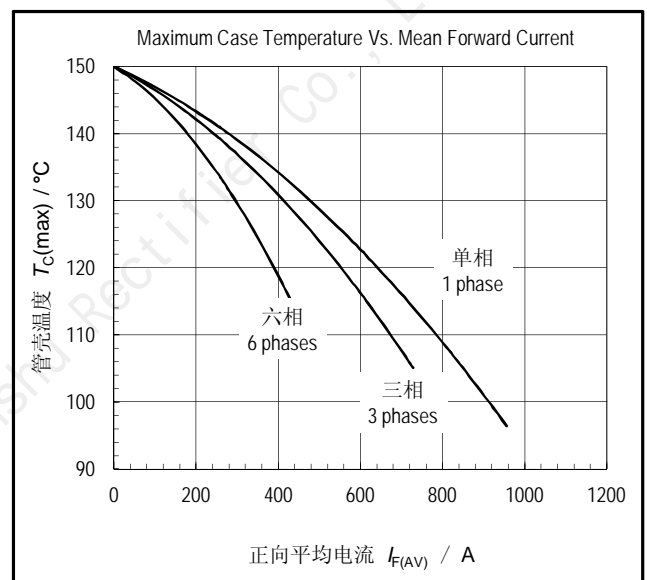


图4. 管壳温度与正向平均电流的关系曲线

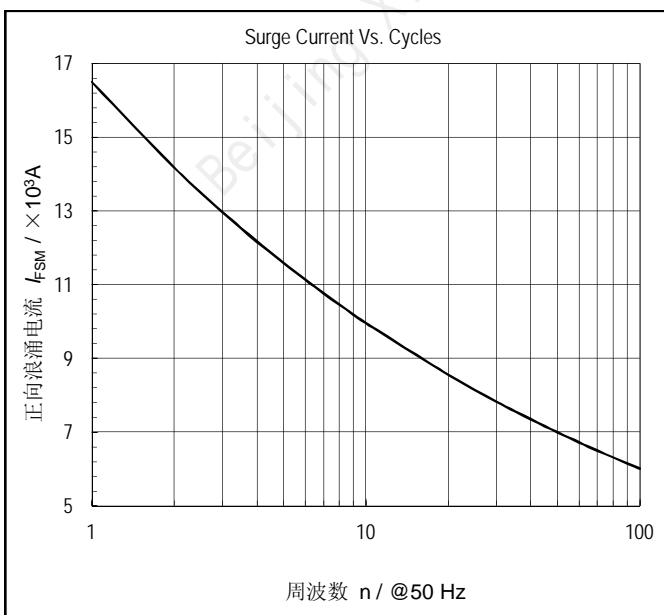


图5. 正向浪涌电流与周波数的关系曲线

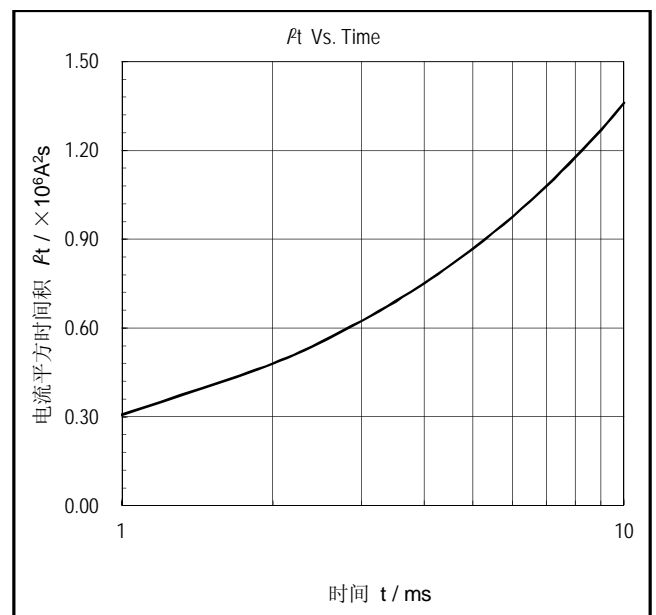


图6.  $I^2t$  特性曲线