

PST ZP3001

RECTIFIER DIODE

Features

- Blocking Capability up to 1000 V
- High Surge Rating
- Rugged Ceramic Hermetic Package

ELECTRICAL CHARACTERISTICS AND RATINGS

Blocking

Parameter	Symbol	Min	Max	Typ	Unit	Conditions
Repetitive peak reverse voltage	V_{RRM}		1000		V	$T_j = -40\text{ °C to }190\text{ °C}$
Non repetitive peak reverse voltage	V_{RSM}		1100		V	$T_j = -40\text{ °C to }190\text{ °C}$
Repetitive peak reverse current	I_{RRM}		75		mA	$T_j = T_{jmax}$, $V = V_{RRM}$

Conducting

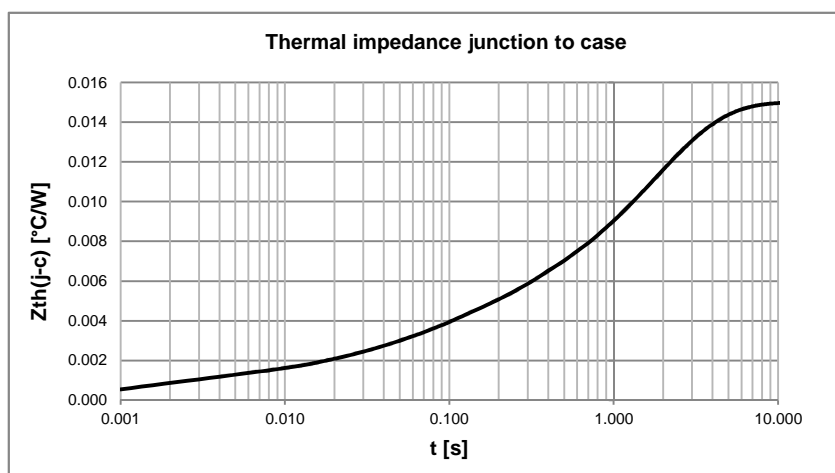
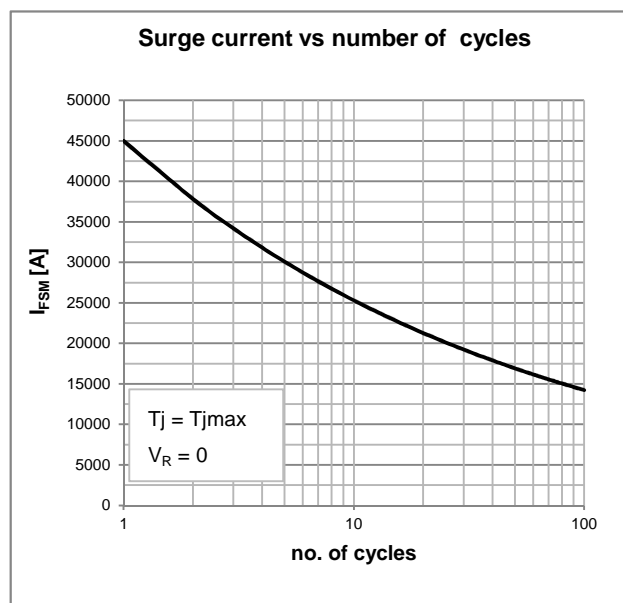
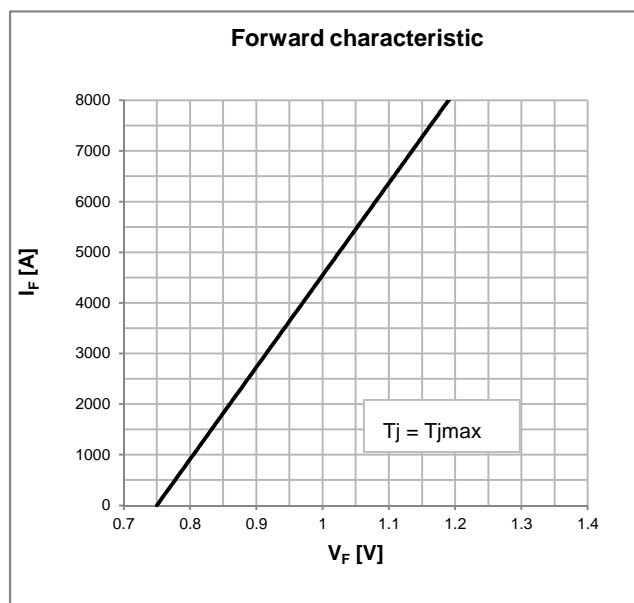
Parameter	Symbol	Min	Max	Typ	Unit	Conditions
Average value of forward current	$I_{F(AV)}$		4935		A	50 Hz sinewave, 180° conduction, $T_c = 85\text{ °C}$
RMS value of forward current	$I_{F(RMS)}$		7750		A	50 Hz sinewave, 180° conduction, $T_c = 85\text{ °C}$
Peak one cycle surge (non repetitive) current	I_{FSM}		45		kA	50 Hz sinewave, 180° conduction, $T_j = T_{jmax}$, $V_R = 0$
I square t	$I^2 t$		10125		kA^2s	$T_j = T_{jmax}$
Peak forward voltage	V_{FM}		1.03		V	Forward current 5000 A, $T_j = T_{jmax}$
Threshold voltage	$V_{F(TO)}$		0.75		V	$T_j = T_{jmax}$
Forward slope resistance	r_F		0.055		mΩ	$T_j = T_{jmax}$

Thermal and mechanical characteristics and ratings

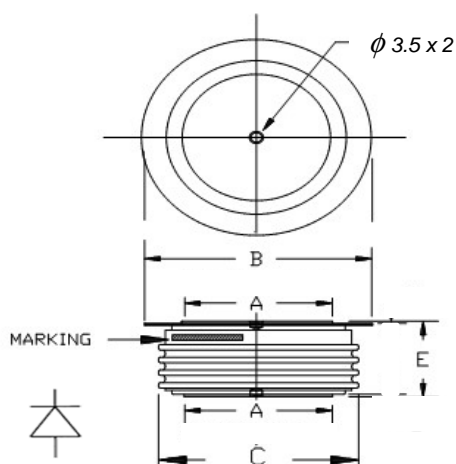
Parameter	Symbol	Min	Max	Typ	Unit	Conditions
Operating temperature	T_j	-40	190		°C	
Storage temperature	T_{stg}	-40	190		°C	
Thermal resistance junction to case	$R_{th(j-c)}$		0.015		°C/W	Double side cooled, 180° SIN
Thermal resistance case to sink	$R_{th(c-s)}$		0.006		°C/W	Mounting surfaces smooth, flat and greased
Mounting force	F	22	25		kN	
Weight	W			520	g	

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OUTLINE AND DIMENSIONS



	A	B	C	E
mm	47	75	66	26 ± 0.5

- All the characteristics given in this data sheet are guaranteed only with uniform clamping force, cleaned and lubricated heatsink surfaces with flatness < 0.03 mm and roughness < 2 μ m