

# PST ZK322

## FAST RECOVERY DIODE

### Features

- Blocking Capability up to 1600 V
- Soft Reverse Recovery
- Rugged Ceramic Hermetic Package

### ELECTRICAL CHARACTERISTICS AND RATINGS

#### Blocking

Parameter	Symbol	Min	Max	Typ	Unit	Conditions
Repetitive peak reverse voltage	$V_{RRM}$		1600		V	$T_j = -40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$
Non repetitive peak reverse voltage	$V_{RSM}$		1700		V	$T_j = -40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$
Repetitive peak reverse current	$I_{RRM}$		50		mA	$T_j = T_{jmax}$ , $V = V_{RRM}$

#### Conducting

Parameter	Symbol	Min	Max	Typ	Unit	Conditions
Average value of forward current	$I_{F(AV)}$		590		A	50 Hz sinewave, $180^{\circ}$ conduction, $T_c = 85\text{ }^{\circ}\text{C}$
RMS value of forward current	$I_{F(RMS)}$		926		A	50 Hz sinewave, $180^{\circ}$ conduction, $T_c = 85\text{ }^{\circ}\text{C}$
Peak one cycle surge (non repetitive) current	$I_{FSM}$		11.5		kA	50 Hz sinewave, $180^{\circ}$ conduction, $T_j = T_{jmax}$ , $V_R = 0$
I square t	$I^2 t$		661		$\text{kA}^2\text{s}$	$T_j = T_{jmax}$
Peak forward voltage	$V_{FM}$		1.49		V	Forward current 1200 A, $T_j = T_{jmax}$
Threshold voltage	$V_{F(TO)}$		0.88		V	$T_j = T_{jmax}$
Forward slope resistance	$r_F$		0.51		m $\Omega$	$T_j = T_{jmax}$

#### Thermal and mechanical characteristics and ratings

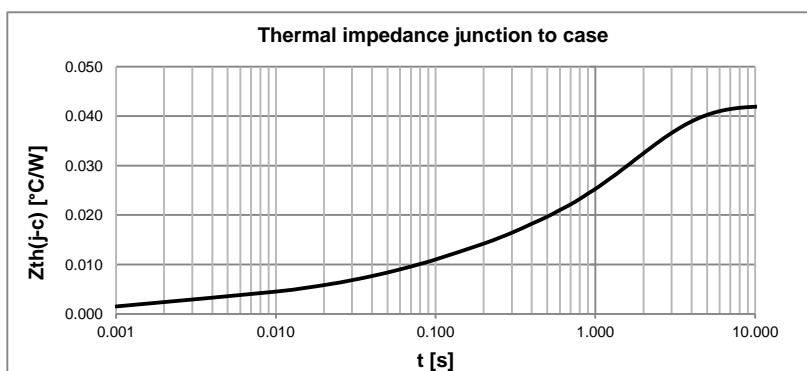
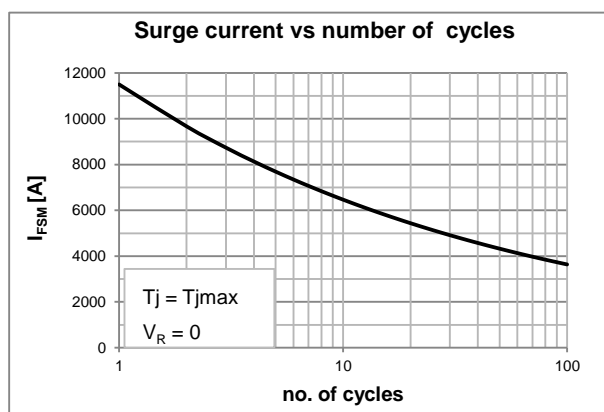
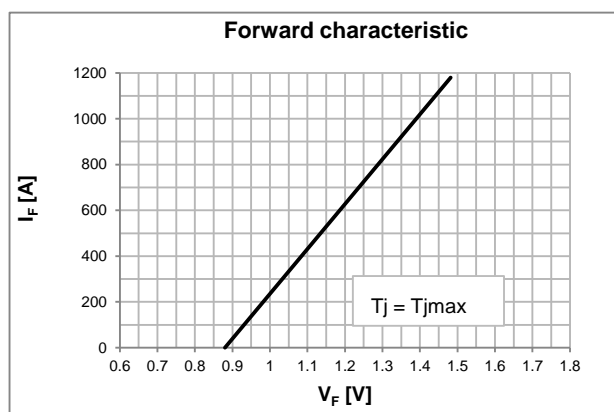
Parameter	Symbol	Min	Max	Typ	Unit	Conditions
Operating temperature	$T_j$	-40	125		$^{\circ}\text{C}$	
Storage temperature	$T_{stg}$	-40	125		$^{\circ}\text{C}$	
Thermal resistance junction to case	$R_{th(j-c)}$		0.042		$^{\circ}\text{C/W}$	Double side cooled, $180^{\circ}$ SIN
Thermal resistance case to sink	$R_{th(c-s)}$		0.010		$^{\circ}\text{C/W}$	Mounting surfaces smooth, flat and greased
Mounting force	<b>F</b>	8.5	9.5		kN	
Weight	<b>W</b>			280	g	

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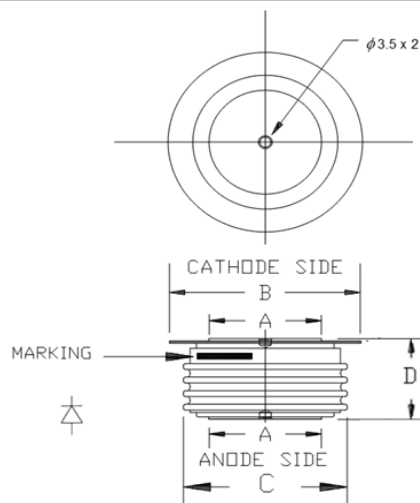
## FAST RECOVERY DIODE

### Switching

Parameter	Symbol	Min	Max	Typ	Unit	Conditions
Reverse recovery current	$I_{rr}$		70		A	$I_F = 1000$ A $di_F / dt = 60$ A/ $\mu$ s $V_R = 50$ V $T_j = T_{jmax}$
Reverse recovery charge	$Q_{rr}$		60		$\mu$ C	
Reverse recovery time	$t_{rr}$		2.0		$\mu$ s	
Softness	<b>s</b>	0.5				



### OUTLINE AND DIMENSIONS



	A	B	C	D
mm	34	56 - 64	55	$26 \pm 1$

- 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 $\mu$ m