

GENERAL PURPOSE HIGH POWER STANDARD RECTIFIER

YZPST-DRD5940H55

Features:

- . All Diffused Structure
- . High Surge rating
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device

Typical Applications:

- . Rectifier for Drives Applications
- . Medium voltage converters
- . Pulsed power applications
- . Crowbar Applications

ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

V_{RRM} (1)	V_{RSM} (1)
5500	5600

V_{RRM} = Repetitive peak reverse voltage

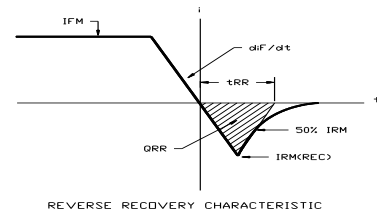
V_{RSM} = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage	I_{RRM}	50 mA 600 mA
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Notes:

All ratings are specified for $T_j=25^\circ\text{C}$ unless otherwise stated.

- (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to $+150^\circ\text{C}$.
- (2) 10 msec. max. pulse width
- (3) Maximum value for $T_j = 150^\circ\text{C}$.
- (4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min	Max.	Typ	Units	Conditions
Max. Average value of on-state current	$I_{F(AV)}$		5940		A	Sinewave, 180° conduction, $T_c=100^\circ\text{C}$
RMS value of on-state current	$I_{F(RMS)}$		9330		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		93.6		kA	$T_j=150^\circ\text{C}$, $V_R=0\text{V}$, $t_p=10\text{ms}$
I square t	I^2t		43.8×10^3		kA^2s	10 msec
Peak on-state voltage	V_{FM}		1.26		V	$I_{FM}=6000\text{A}$; $T_j = T_{j\text{ Max}}$
Threshold voltage	V_{FO}		0.8		V	$T_j = T_{j\text{ Max}}$
Slope resistance	r_f		0.076		$\text{m}\Omega$	$T_j = T_{j\text{ Max}}$
Reverse Recovery Charge (4)	Q_{rr}		9000	-	μC	
Reverse Recovery Time (4)	t_{RR}		-		μs	

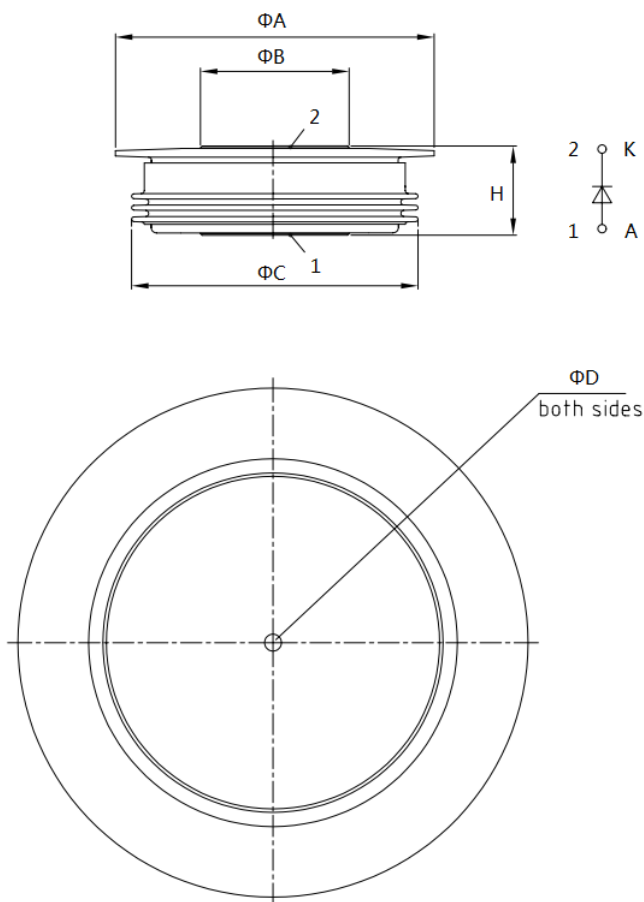
* For guaranteed maximum values, contact factory

THERMAL AND MECHANICAL CHARACTERISTICS

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	0	+150		$^\circ\text{C}$	
Storage temperature	T_{stg}	-40	+160		$^\circ\text{C}$	
Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.004		$^\circ\text{C}/\text{W}$	Double side cooled Single sided cooled
Thermal resistance - case to sink	$R_{\theta(c-s)}$		1		$^\circ\text{C}/\text{W}$	Double side cooled Single sided cooled
Thermal resistance - junction to sink	$R_{\theta(j-s)}$		-		$^\circ\text{C}/\text{kW}$	Double side cooled Single sided cooled
Mounting force	P	110	130		kN	
Weight	W				Kg	about

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



Sym	A	B	C	D	H
mm	172	110	159	3.5x3	35±1