

SCD1360

Power Rectifier Diodes

GENERAL PURPOSE HIGH POWER RECTIFIER

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)
6000	6100

V_{RRM} = Repetitive peak reverse voltage

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

Repetitive peak reverse leakage	I_{RRM}	15 mA 75mA (3)
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Notes:

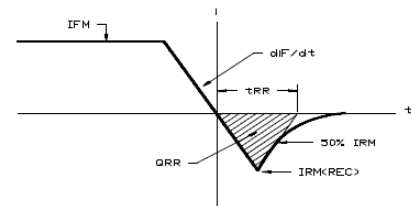
All ratings are specified for $T_j=25^\circ\text{C}$ unless otherwise stated.

(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

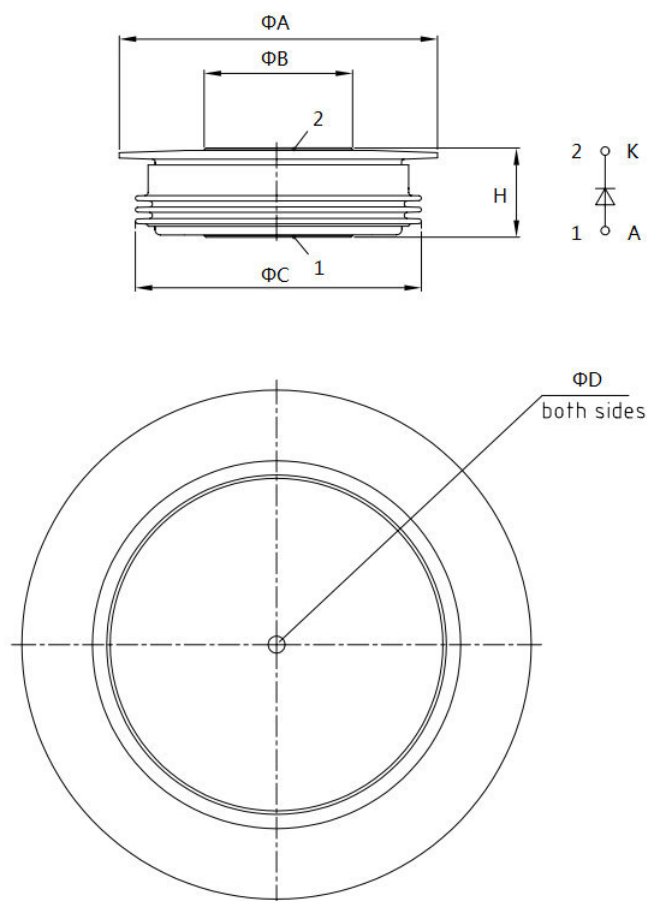
Parameter	Symbol	Min	Max.	Typ	Units	Conditions
Max. Average value of on-state current	$I_{F(AV)M}$		1363		A	Sinewave, 180° conduction, $T_c=85^\circ\text{C}$
RMS value of on-state current	$I_{F(RMS)}$		2142		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		19		kA	$T_j=25^\circ\text{C}$, $V_R=0,5V_{RRM}$, $t_p=10\text{ms}$
I square t	I^2t		1805		kA^2s	10 msec
Peak on-state voltage	V_F		2.68		V	$I_F=4000\text{A}$; $T_j=150^\circ\text{C}$
Threshold voltage	V_{FO}		1.015		V	$T_j=150^\circ\text{C}$
Forward slope resistance	r_F		0.407		$\text{m}\Omega$	$T_j=150^\circ\text{C}$
Reverse Recovery Current (4)	$I_{RM(REC)}$		-		A	$I_{FM} = 1000\text{A}$; $dI_F/dt = 100\text{A}/\mu\text{s}$, $T_j = T_j \text{ MAX.}$
Reverse Recovery Charge (4)	Q_{rr}		-		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	-40	+150		°C	
Storage temperature	T_{stg}	-40	+150		°C	
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.020		K/W	Double side cooling Single sided cooled
Thermal resistance - case to sink	$R_{\Theta(c-s)}$		0.005		K/W	Double side cooling Single sided cooled
Thermal resistance - junction to sink	$R_{\Theta(j-s)}$		-		K/kW	Double side cooling Single sided cooled
Mounting force	P	20	24	-	kN	±20%
Weight	W			0.46	Kg	about

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS


Sym	A	B	C	D	H
mm	74	47	66	3.5×3	26±1