



Ruttonsha International Rectifier Ltd.

SILICON RECTIFIERS

TYPE : R3000K...C SERIES

STANDARD RECOVERY DIODES

Features

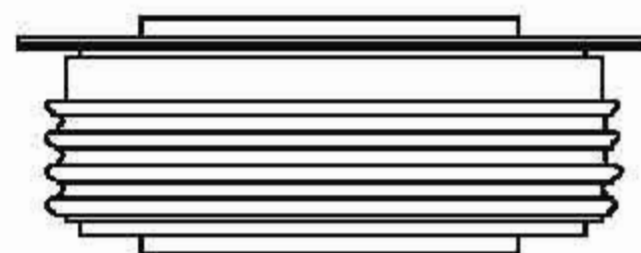
- Wide current range
- High voltage ratings up to 2500V
- High surge current capabilities
- Diffused junction
- Hockey Puk version
- Case style DO-200AC (K-PUK)

Typical Applications

- Converters
- Power supplies
- Machine tool controls
- High power drives
- Medium traction applications

Hockey Puk Version

3000A



case style DO-200AC (K-PUK)

Major Ratings and Characteristics

Parameters	R3000K...C	Units
$I_{F(AV)}$	3000	A
@ T_{hs}	55	°C
$I_{F(RMS)}$	4710	A
@ T_{hs}	55	°C
I_{FSM}	@ 50Hz	31000
		A
I^2t	@ 50Hz	4810
		KA ² s
V_{RRM} range	1200 to 2500	V
T_J	- 40 to 160	°C

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ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} , maximum repetitive peak reverse voltage V	V_{RSM} , maximum non-repetitive peak rev. voltage V	I_{RRM} max. @ $T_J = 180^\circ\text{C}$ mA
R3000K...C	12	1200	1300	75
	16	1600	1700	
	20	2000	2100	
	25	2500	2600	

Forward Conduction

Parameter	R3000K...C	Units	Conditions
$I_{F(AV)}$ Max. average forward current @ Heatsink temperature	3000 55	A °C	180° conduction, half sine wave Double side cooled
$I_{F(RMS)}$ Max. RMS forward current	4710	A	@ 55°C heatsink temperature double side cooled
I_{FSM} Max. peak, one-cycle forward, non-repetitive surge current	31000	A	t = 10ms Sinusoidal halfwave, Initial $T_J = T_J$ max.
I^2t Maximum I^2t for fusing	4810	KA ² s	t = 10ms
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	48100	KA ² /s	t = 0.1 to 10ms, no voltage reapplied
$V_{F(TO)}$ Threshold voltage	0.76	V	$T_J = T_J$ max.
r_o forward slope resistance	0.13	mΩ	$T_J = T_J$ max.
V_{FM} Max. forward voltage drop	1.41	V	$I_{pk} = 4000\text{A}$, $T_J = T_J$ max, $t_p = 10\text{ms}$ sinusoidal wave

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Thermal and Mechanical Specifications

Parameter	R3000K...C	Units	Conditions
T _J Max. junction operating temperature range	-40 to 160	°C	
T _{stg} Max. storage temperature range	-55 to 160		
R _{thJ-hs} Max. thermal resistance, junction to heatsink	0.020	K/W	DC operation double side cooled
F Mounting force, ± 10%	22250 (2250)	N (Kg)	
wt Approximate weight	425	g	
Case style	DO-200AC(K-PUK)		See Outline Table

Out-line Diagram

