Ruttonsha International Rectifier Ltd.

RUTTONSHA

SILICON RECTIFIERS

TYPE:R1200K..F SERIES

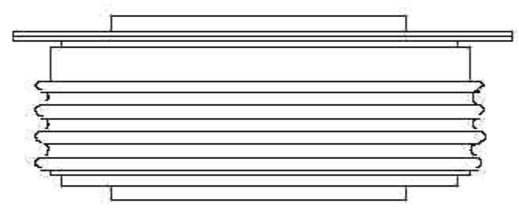
Hockey Puk Version

1200A

FAST RECOVERY DIODES

Features

- High power FAST recovery diode series
- High current capability
- Optimized turn on and turn off characteristics
- Low forward recovery
- Fast and soft reverse recovery
- Press-puk encapsulation
- Case style : DO-200AC (K-PUK)
- Maximum junction temperature 150°C



case style DO-200AC (K-PUK)

Typical Applications

- Snubber diode for GTO
- High voltage free-wheeling diode
- Fast recovery rectifier applications

Major Ratings and Characteristics

Parameters		R1200K..F	Units
$I_{F(AV)}$		1200	A
	@ T_{hs}	55	°C
$I_{F(RMS)}$		1884	A
I_{FSM}	@ 50Hz	20000	A
V_{RRM}		1700 to 3000	V
t_{rr}		4.0	µs
	@ T_J	25	°C
T_J		- 40 to 150	°C

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. @ $T_J = T_J$ max. mA
R 1200K..F	17	1700	1750	50
	22	2200	2300	
	25	2500	2600	
	28	2800	2900	
	30	3000	3100	

Forward Conduction

	Parameter	R1200K..F	Units	Conditions	
$I_{F(AV)}$	Max. average forward current	1200	A	180° conduction, half sine wave	
	@ heatsink temperature	55	°C	Double side cooled	
$I_{F(RMS)}$	Max. RMS forward current	1884	A	@ 55°C heatsink temperature double side cooled	
I_{FSM}	Max. peak, one-cycle forward, non-repetitive surge current	20000	A	t = 10ms	Sinusoidal half wave, Initial $T_J = T_J$ max.
I^2t	Maximum I^2t for fusing	2000	KA^2s	t = 10ms	
$V_{F(TO)}$	Threshold voltage	1.15	V	$T_J = T_J$ max.	
r_f	Forward slope resistance	0.80	mΩ	$T_J = T_J$ max.	
V_{FM}	Max. forward voltage drop	1.75	V	I_{pk}=1000 A, $T_J = T_J$ max, t_p = 10ms sinusoidal wave	
trr	Reverse Recovery Time	4.0	us	IFM=1000A, di/dt=100us	

SILICON RECTIFIRES

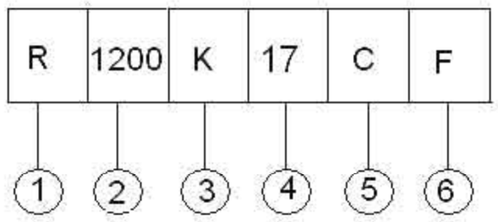
R 1200 K...F Series

Thermal and Mechanical Specifications

	Parameter	R1200K..F	Units	Conditions
T_J	Max. junction operating temperature range	-40 to 150	°C	
T_{stg}	Max. storage temperature range	-40 to 150		
$R_{thJ\text{-}hs}$	Max. thermal resistance, case junction to heatsink	0.023	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

Ordering Information Table

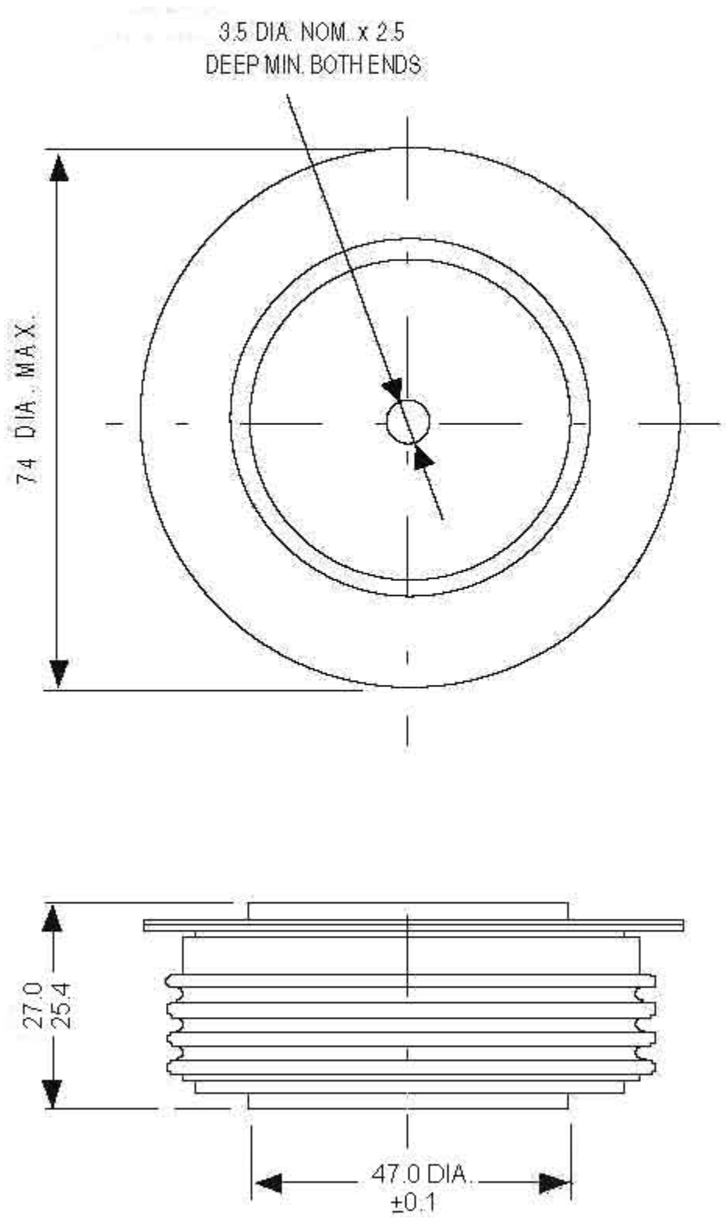
Device Code



1 - R = Diode
2 - Essential part number
3 - K = Puk Case DO-200AC (K-PUK)
4 - Voltage code: Code x 100 = V_{RRM} (See Voltage Ratings table)
5 - C = Ceramic Puk
6 - F = Fast recovery

R1200K...F Series

Outline Table



Case Style DO-200AC (K-PUK)

All dimensions in millimeters

Quote between upper and lower pole pieces has to be considered after application of Mounting Force (see Thermal and Mechanical Specification)