



Ruttonsha International Rectifier Ltd.

Soft Recovery Diode

TYPE:R1500K..F SERIES

FAST RECOVERY DIODES

Features

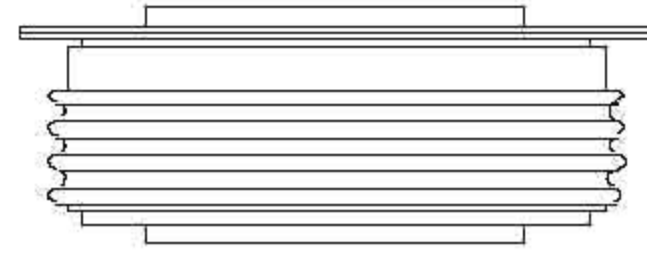
- High power FAST recovery diode series
- 5 μ s recovery time
- High voltage ratings up to 2500V
- High current capability
- Optimized turn on and turn off characteristics
- Low forward recovery
- Fast and soft reverse recovery
- Press-puk encapsulation
- Case style : DO-200AC (K-PUK)
- Maximum junction temperature 125°C

Typical Applications

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

Hockey Puk Version

1500A



case style DO-200AC (K-PUK)

Major Ratings and Characteristics

Parameters	R1500K..F	Units
$I_{F(AV)}$	1500	A
@ T_{hs}	55	°C
$I_{F(RMS)}$	2355	A
I_{FSM} @ 50Hz	21560	A
V_{RRM} range	1700 to 2500	V
t_{rr}	5.0	μ s
@ T_J	125	°C
T_J	- 40 to 125	°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. @ $T_J = T_J$ max. mA
R1500K..F	17	1700	1800	85
	19	1900	2000	
	21	2100	2200	
	23	2300	2400	
	25	2500	2600	

Forward Conduction

Parameter	R1500K..F	Units	Conditions
$I_{F(AV)}$ Max. average forward current @ heatsink temperature	1500 55	A °C	180° conduction, half sine wave Double side cooled
$I_{F(RMS)}$ Max. RMS forward current	2355	A	@ 55°C heatsink temperature double side cooled
I_{FSM} Max. peak, one-cycle forward, non-repetitive surge current	21560	A	t = 10ms Sinusoidal half wave, Initial $T_J = T_J$ max.
I^2t Maximum I^2t for fusing	2320	KA ² s	t = 10ms
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	23200	KA ² \sqrt{s}	t = 0.1 to 10ms, no voltage reapplied
V_O Threshold voltage	1.15	V	$T_J = T_J$ max.
r_T Forward slope resistance	0.265	mΩ	$T_J = T_J$ max.
V_{FM} Max. forward voltage drop	2.1	V	$I_{pk} = 4000A$, $T_J = T_J$ max, $t_p = 10ms$ sinusoidal wave
t_{rr} Reverse Recovery time	5.0	us	IFM=1000A, di/dt=60A/us

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Thermal and Mechanical Specifications

Parameter	R1500K..F	Units	Conditions
T _J Max. junction operating temperature range	-40 to 125	°C	
T _{stg} Max. storage temperature range	-40 to 150		
R _{thJ-hs} Max. thermal resistance, case junction to heatsink	0.022	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

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Outline Table

