



Ruttonsha International Rectifier Ltd.

SILICON RECTIFIERS

TYPE:R430A...F SERIES

FAST RECOVERY DIODES

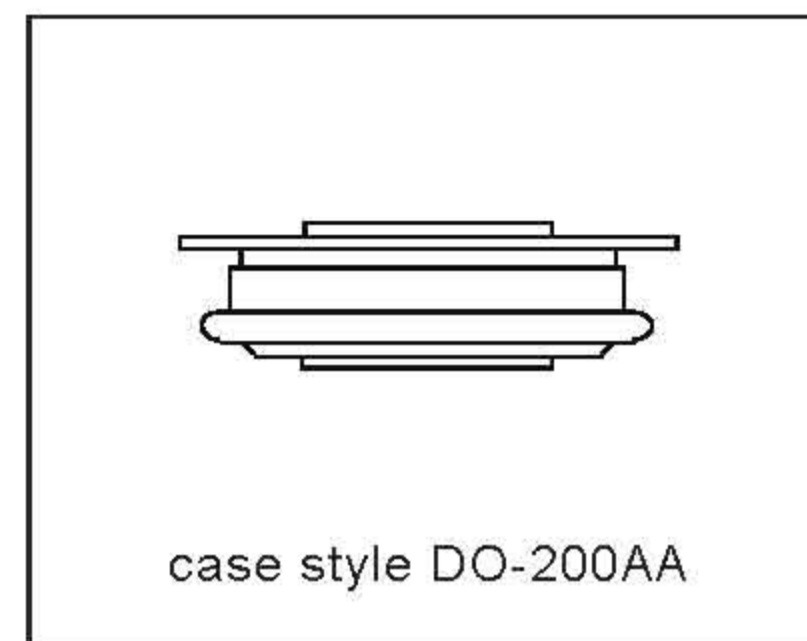
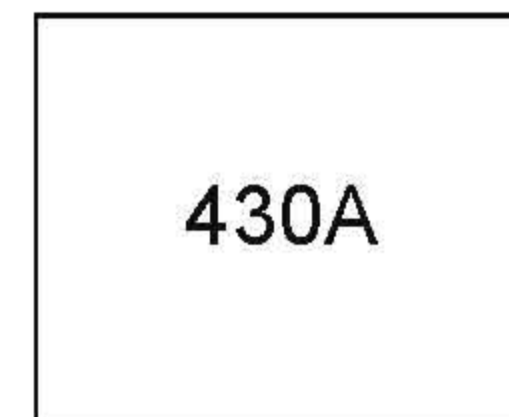
Hockey Puk Version4

Features

- High power FAST recovery diode series
- 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 conform to JEDEC DO-200AA
- Maximum junction temperature 125°C

Typical Applications

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



Major Ratings and Characteristics

Parameters	R430A...F	Units	
$I_{F(AV)}$	430	A	
$@ T_{hs}$	55	°C	
$I_{F(RMS)}$	550	A	
$@ T_{hs}$	25	°C	
I_{FSM}	@ 50Hz	5770	A
	@ 60Hz	6040	A
I^2t	@ 50Hz	166	KA ² s
	@ 60Hz	152	KA ² s
V_{RRM} range	400 to 2500	V	
t_{rr} range	1.0 to 2.0	µs	
$@ T_j$	25	°C	
T_j	- 40 to 125	°C	

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ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} max. repetitive peak and off-state voltage V	V_{RSM} , maximum non-repetitive peak voltage V	I_{RRM} max. $T_J = 125^\circ\text{C}$ mA
R430A...100CF	04	400	500	35
	08	800	900	
	10	1000	1100	
R430A...160CF	12	1200	1300	
	14	1400	1500	
	16	1600	1700	
R430A...250CF	20	2000	2100	
	25	2500	2600	

Forward Conduction

Parameter	R430A...F	Units	Conditions
$I_{F(AV)}$ Max. average forward current @ Heatsink temperature	430	A	180° conduction, half sine wave.
	55	°C	Double side cooled
$I_{F(RMS)}$ Max. RMS current	675	A	@55°C heatsink temperature double side cooled
I_{FSM} Max. peak, one-cycle non-repetitive forward current	5770	A	t = 10ms Sinusoidal half wave, Initial $T_J = T_{J, \text{max}}$.
I^2t Maximum I^2t for fusing	166	KA ² s	t = 10ms Initial $T_J = T_{J, \text{max}}$.
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	1660	KA ² √s	t = 0.1 to 10ms, no voltage reapplied
$V_{F(TOI)}$ Threshold voltage	1.14	V	$T_J = T_{J, \text{max}}$.
r_F Forward slope resistance	0.90	mΩ	$T_J = T_{J, \text{max}}$.
V_{FM} Max. forward voltage	2.25	V	$I_{pk} = 1100\text{A}$, $T_J = 25^\circ\text{C}$, $t_p = 10\text{ms}$ sinusoidal wave
trr Reverse Recovery Time	1.0 to 2.0	us	IFM=750A, di/dt=25A/us

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Outline Table

