



# Ruttonsha International Rectifier Ltd.

## Soft Recovery Diode

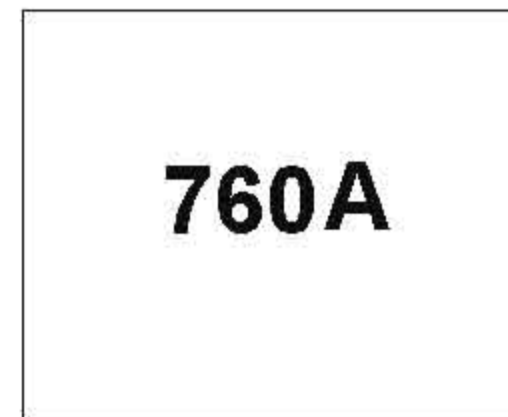
### TYPE:R760E...F SERIES

#### FAST RECOVERY DIODES

Hockey Puk Version4

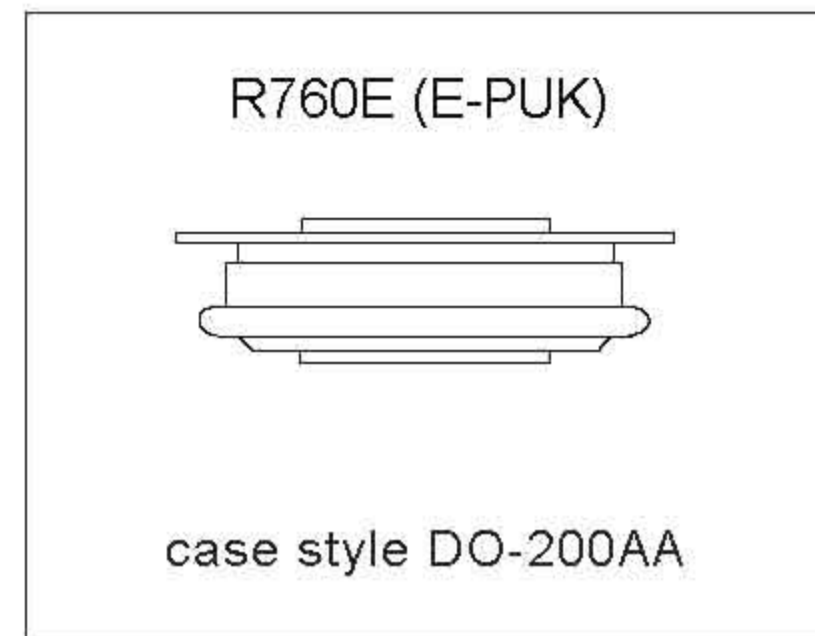
#### Features

- High power FAST recovery diode series
- 2.0  $\mu$ s recovery time
- High voltage ratings up to 1600V
- 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	R 760E...F	Units
$I_{F(AV)}$	760	A
@ $T_{hs}$	55	°C
$I_{F(RMS)}$	1193	A
@ $T_{hs}$	55	°C
$I_{FSM}$ @ 50Hz	9000	A
$I^2t$ @ 50Hz	400	KA <sup>2</sup> s
$V_{RRM}$ range	400 to 1600	V
$t_{rr}$ range	2.0	$\mu$ s
@ $T_J$	125	°C
$T_J$	- 40 to 125	°C

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### ELECTRICAL SPECIFICATIONS

#### Voltage Ratings

Type number	Voltage Code	$V_{RRM}$ 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
R760E...F	04	400	500	50
	08	800	900	
	10	1000	1100	
	12	1200	1300	
	14	1400	1500	
	16	1600	1700	

#### Forward Conduction

Parameter	R760E...F	Units	Conditions
$I_{F(AV)}$ Max. average forward current @ Heatsink temperature	760	A	180° conduction, half sine wave.
	55	°C	Double side cooled
$I_{F(RMS)}$ Max. RMS current	1193	A	@ 55°C heatsink temperature double side cooled
$I_{FSM}$ Max. peak, one-cycle non-repetitive forward current	9000	A	t = 10ms
			Sinusoidal half wave, Initial $T_J = T_J$ max.
$I^2t$ Maximum $I^2t$ for fusing	400	KA <sup>2</sup> s	t = 10ms
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	4000	KA <sup>2</sup> √s	t = 0.1 to 10ms, no voltage reapplied
$V_O$ Threshold voltage	1.13	V	$T_J = T_J$ max.
r Forward slope resistance	0.40	mΩ	$T_J = T_J$ max.
$V_{FM}$ Max. forward voltage	1.7	V	$I_{pk} = 1500\text{A}$ , $T_J = 25^\circ\text{C}$ , $t_p = 10\text{ms}$ sinusoidal wave
trr Reverse Recovery time	2.0	us	IFM=550A, di/dt=40A/us

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## R760E...F SERIES

### Thermal and Mechanical Specifications

Parameter	R760E...F	Units	Conditions
T <sub>J</sub> Max. operating temperature range	-40 to 125	°C	
T <sub>stg</sub> Max. storage temperature range	-40 to 150		
R <sub>thJ-hs</sub> Max. thermal resistance, junction to heatsink	0.05	K/W	DC operation double side cooled
F Mounting force, ± 10%	9800 1000	KN (Kg)	
wt Approximate weight	85	g	
Case style	E-PUK		See Outline Table

### Ordering Information Table

Device Code													
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 5px;">R</td> <td style="padding: 5px;">760</td> <td style="padding: 5px;">E</td> <td style="padding: 5px;">16</td> <td style="padding: 5px;">C</td> <td style="padding: 5px;">F</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> </table>	R	760	E	16	C	F	1	2	3	4	5	6
R	760	E	16	C	F								
1	2	3	4	5	6								
<b>1</b>	- R=Diode												
<b>2</b>	- Essential part number												
<b>3</b>	- E = Puk												
<b>4</b>	- Voltage code: Code x 100 = V <sub>RRM</sub> (see Voltage Ratings table)												
<b>5</b>	- C = Ceramic Puk												
<b>6</b>	- F = Fast recovery												
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## R760E...F SERIES

Outline Table

