

Ruttonsha International Rectifier Ltd.

HIGH POWER DIODE

Type : R7000Q...C SERIES

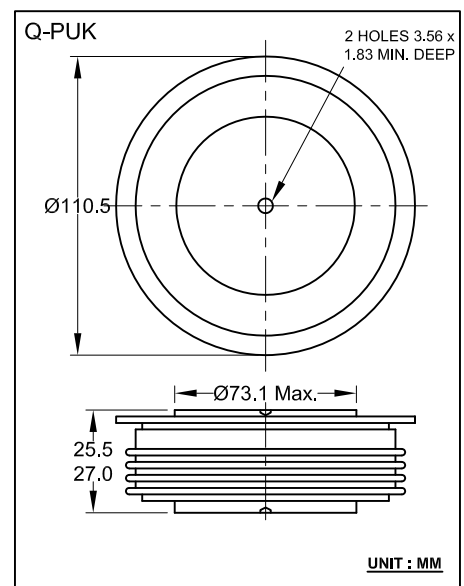
FEATURES

- * Low voltage rating up to 600V
- * High current capability
- * Low forward recovery
- * Press puk encapsulation
- * Case style conform to (Q-PUK)

TYPICAL APPLICATION

- * Snubber diode for GTO
- * High voltage free-wheeling diode

OUT LINE DIAGRAM



MAJOR RATING & CHARACTERISTICS

Parameters	R7000Q	Units
$I_{F(AV)}$	7000	A
@ T _{hs}	79	°C
$I_{F(RMS)}$	12440	A
I_{FSM}	60000	A
I^2t	15×10^6	A ² s
V _{RRM} Range	200 to 600	V
T _J Range	-40°C to +175°	°C

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ELECTRICAL SPECIFICATION

VOLTAGE RATINGS

Type Number	Voltage Code	V_{RRM} max. repetitive peak reverse voltage V	V_{RSM} max. Non-repetitive peak reverse voltage	I_{RRM} max. @ $T_J = T_J$ Max. mA
R7000Q	02	200	300	100
	04	400	500	
	06	600	700	

FORWARD CONDUCTION

	Parameter	R7000Q	Unit	Conditions	
I _{F (AV)}	Max, average forward current	7000	A	180° conduction, half sine wave Double side cooled	
	@ Heatsink temp.	79	°C		
I _{F(RMS)}	Max. forward current	12440	A	@ 55°C heat sink temp, double side cooled	
I _{FSM}	Max, peak one-cycle forward non-repative surge current	60000	A	t = 10ms	Sine wave 10ms without reverse voltage
I ² t	Max, I ² t for fusing	15 x 16 ⁶	A ² s		
V _{FM}	Max, forward voltage drop	0.95	V	I _{PK} = 3000Amps, T _c =25°C, t _p = 10ms sinusodial wave	
V _{F(TO)}	Threshold voltage	0.645	V	T _j = T _j max.	
r _F	Forward slope resistance	0.044	mΩ	T _j = T _j max.	

MOUNTING

	Parameter	R7000Q	Unit	Conditions
T_J	Max. junction operating temp. range	-40 to +175	°C	
T_{stg}	Max, Storage Temp.	-40 to +175	°C/W	
R th j-hs	Max. Thermal resistance. junction to heat sink	0.0095	K/W	DC operation double side cooled
F	Mounting force	40 to 45	kn	
wt	Appro, Weight	2500	g	
	Case style	Q-PUK		See Outline Table

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Ordering Information Table

R	7000	Q	06	C
1	2	3	4	5

- 1), R = Diode
2), Essential part number
3), Q = Puk case
4), Voltage code (See Voltage Rating Table)
5), C = Ceramic Puk