



RIR POWER ELECTRONICS LIMITED

HIGH POWER DIODE

Type : R 6000 Q 40C SERIES

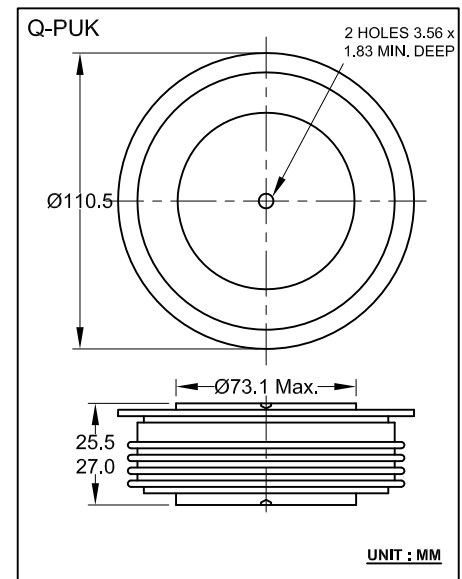
FEATURES

- * Low voltage rating up to 4000V
- * 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	R6000Q	Units
$I_{F(AV)}$	6000	A
@ T_{hs}	55	°C
$I_{F(RMS)}$	10930	A
I_{FSM}	62000	A
I^2t	19.20×10^6	A ² s
V_{RRM} Range	3200 to 4000	V
T_J Range	-40°C to +160°	°C

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R6000Q...C SERIES

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
R6000Q	32	3200	3300	100
	34	3400	3500	
	36	3600	3700	
	38	3800	3900	
	40	4000	4100	

FORWARD CONDUCTION

	Parameter	R6000Q	Unit	Conditions
I _{F(AV)}	Max, average forward current	6000	A	180° conduction, half sine wave Double side cooled
	@ Heatsink temp.	55	°C	
I _{F(RMS)}	Max. forward current	10930	A	@ 55°C heat sink temp, double side cooled
I _{FSM}	Max, peak one-cycle forward non-repetitive surge current	62000	A	t = 10ms Sine wave 10ms without reverse voltage
I ² t	Max, I ² t for fusing	19.20 x 10 ⁶	A ² s	
V _{FM}	Max, forward voltage drop	1.25	V	I _{PK} = 4000Amps, T _c =25°C, t _p = 10ms sinusoidal wave
V _{F(TO)}	Threshold voltage	0.758	V	T _j = T _j max.
r _F	Forward slope resistance	0.097	mΩ	T _j = T _j max.

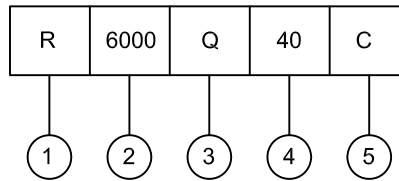
MOUNTING

	Parameter	R6000Q	Unit	Conditions
T _j	Max. junction operating temp. range	-40 to +160	°C	
T _{stg}	Max, Storage Temp.	-55 to +160	°C/W	
R _{th j-hs}	Max. Thermal resistance. junction to heat sink	0.0080	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



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