



Ruttonsha International Rectifier Ltd.

High Power Diode

Hockey Puk Version
R12000 TC 06 Series

FEATURES

- * *Wide current range*
- * *High surge current capabilities*
- * *Case style T-PUK*

TYPICAL APPLICATION

- * *Welding diode*
- * *Converters*
- * *High power drives*
- * *Traction Application*

MAJOR RATING & CHARACTERISTICS

Parameters	R12000 TC	Units
$I_{F(AV)}$ @TC=55 °C	12000	A
I_{FSM} @ 50Hz	85	kA
I^2t @ 50Hz	36125 x 1E3	A ² s
V_{RRM} range	400 to 600	V
T_J	-30 to 180	°C

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ELECTRICAL SPECIFICATION VOLTAGE RATINGS

Type Number	Voltage Code	V_{RMM} max. repetitive peak reverse voltage V	V_{RMM} max. Non-repetitive peak reverse voltage	I_{DRM} max. @ $T_J = T_J$ Max. mA
R12000 TC	04	400	500	200
	06	600	700	

FORWARD CONDUCTION

	Parameter	R12000 TC	Unit	Conditions
$I_{F(AV)}$	Mean forward current	12000	A	180° sin, 50Hz, $T_h=55^\circ\text{C}$, double side cooled
I_{FSM}	Surge forward current	85	KA	Sine wave 10ms without reverse voltage
I^2t	I^2t	36125X1E3	A ² s	
V_{FM}	Forward voltage	0.87	V	Forward current =4500A
$V_{F(TO)}$	Threshold voltage	0.70	V	$T_j=T_j$ Max
r_o	Forward slope resistance	0.15	m Ω	$T_j=T_j$ Max

SWITCHING

t_{rr}	Reverse recovery time		μs	
Q_{rr}	Reverse recovery charge		μs	
I_{rr}	Peak reverse recovery current		μs	

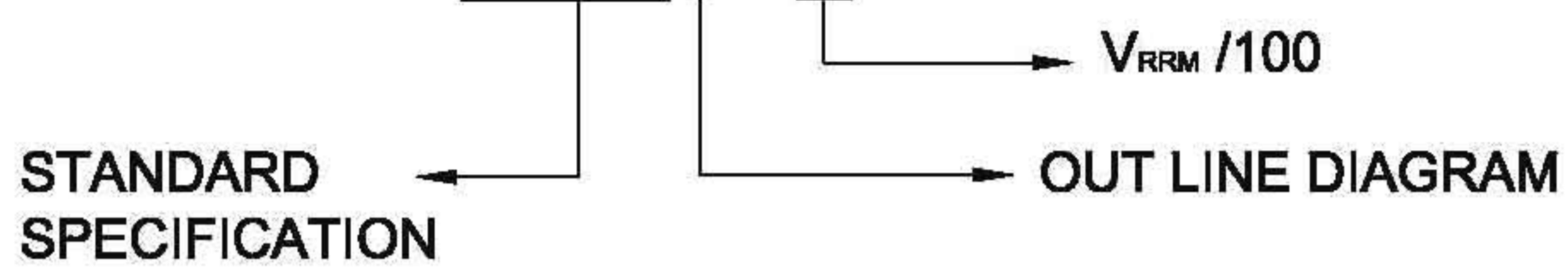
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MOUNTING

R _{th(j-h)}	Thermal impedance DC	9.5	°C/kW	double side cooled
R _{th(c-h)}	Thermal Impedance	2.0	°C/kW	Case to heat sink, double side cooled
T _j	Operating junction temperature	-30/ 180	°C	
F	Mounting force	46.0/ 54.0	kN	
	Mass	410	g	

ORDERING INFORMATION :- R12000 T c 06



OUT LINE DIAGRAM

'TC'-PUK

