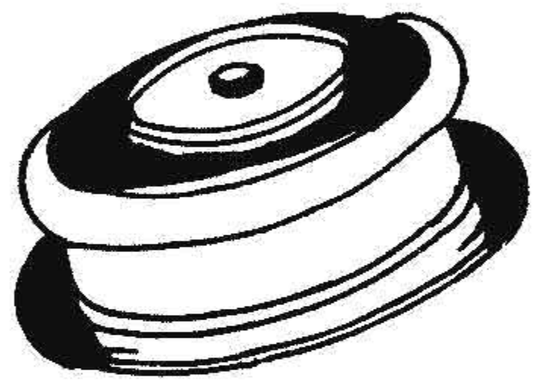
Ruttonsha International Rectifier Ltd.

STANDARD RECOVERY DIODES

High Power Diode
Hockey Puk Version
R1200 B...C Series

Type: R1200B...04C to R1200B...36C

R1200B (B - PUK)



FEATURES

- *Wide current range*
- *High voltage ratings up to 3600 V*
- *High surge current capabilities*
- *Case style DO- 200AB (B-PUK)*

TYPICAL APPLICATIONS

- *Converters*
- *High power drives*
- *Power supplies*
- *Traction Application*

MAJOR RATINGS & CHARACTERISTICS

Parameters		R1200B	Units
$I_{F(AV)}$		1180	A
	@ T_{hs}	55	^0C
$I_{F(RMS)}$		2280	A
	@ T_{hs}	25	^0C
I_{FSM}	@ 50 Hz	13600	A
I^2t	@ 50 Hz	925	KA^2s
V_{RRM} range		400 to 3600	V
T_J		-40 to 150	^0C

STANDARD RECOVERY DIODES

R1200B

ELECTRICAL SPECIFICATION

VOLTAGE RATINGS

Type Number	Voltage Code	V_{RRM} , max. repetitive peak reverse voltage V	V_{RRM} , max. non- repetitive peak reverse voltage V	I_{DRM} max. @ $T_J = T_J$ max. mA
R1200B	04	400	500	50
	08	800	900	
	12	1200	1300	
	18	1800	1900	
	24	2400	2500	
	28	2800	2900	
	32	3200	3300	
	36	3600	3700	

FORWARD CONDUCTION

	Parameter	R1200B	Units	Conditions		
$I_{F(AV)}$	Max. average Forward current	1180(550)	A	180^0 conduction, half sine wave		
	@ heat sink temperature	55(85)	^0C	double side (single side) cooled		
$I_{F(RMS)}$	Max. RMS Forward current	2280	A	@25^0C heat sink temperature (double side cooled)		
I_{FSM}	Max. peak one cycle Forward non-repetitive surge current	13600		t = 10ms	No voltage reapplied	Sinusodial half wave, Initial $T_J = T_J$ max.
		11440		t = 10ms	50%V_{RRM} reapplied	
I^2t	Maximum I^2t for fusing	925	kA^2s	t = 10ms	No voltage reapplied	
		654		t = 10ms	50%V_{RRM} reapplied	
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	9250	$kA^2\sqrt{s}$	t = 0.1 to 10ms. No voltage reapplied.		
$V_{F(TO)}$	threshold voltage	0.90	V	$T_J = T_J$ max.		
r_f	Forward slope resistance	0.7	mΩ	$T_J = T_J$ max.		
V_{FM}	Max. Forward voltage drop	1.66	V	I_{pk} = 2000A, $T_J = T_J$ max., t_p = 10ms sine pulse		

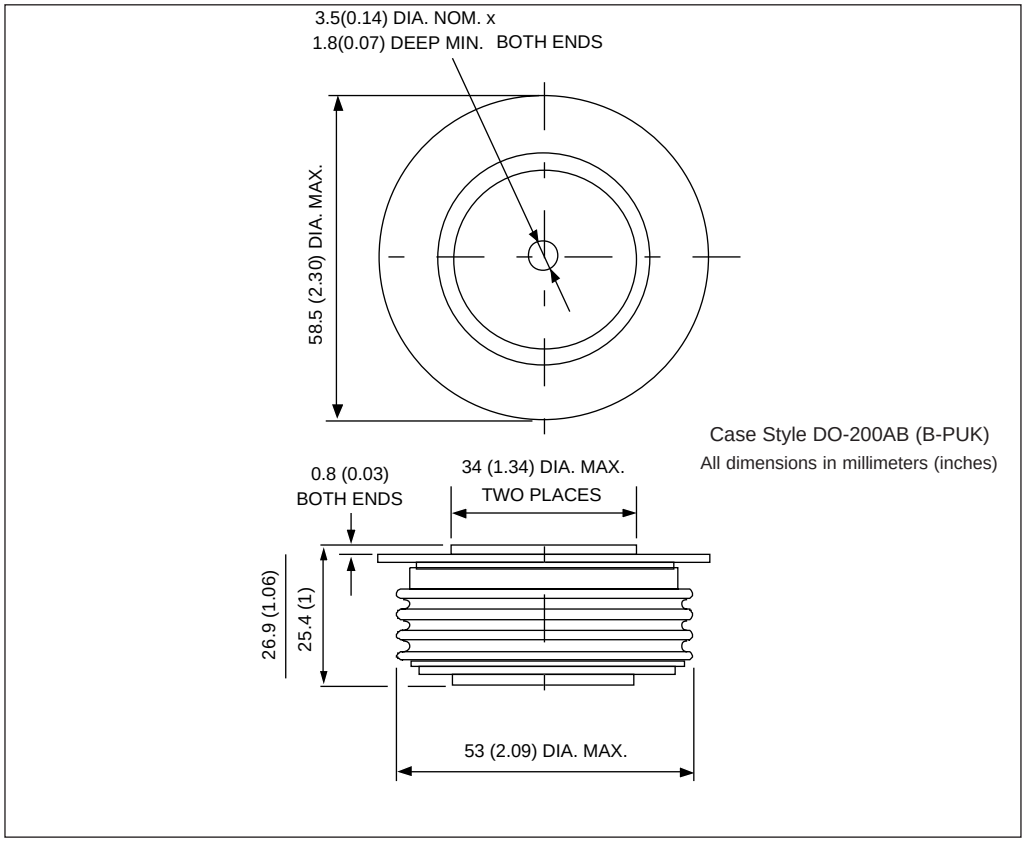
THERMAL AND MECHANICAL SPECIFICATION

	Parameter	R1200B	Units	Conditions
T_J	Max. operating temperature range	-40 to 150	^0C	
T_{stg}	Max. storage temperature range	-55 to 200		
R_{thJ-hs}	Max. thermal resistance, junction to heat sink	0.073	K/W	DC operation single side cooled
		0.031		DC operation double side cooled
F	Mounting force, ±10%	14700 (1500)	N (kg)	
w t	Approximate weight	255	g	
	Case style	DO-200AB(B-PUK)		See outline

STANDARD RECOVERY DIODES

R1200B

Outline Table



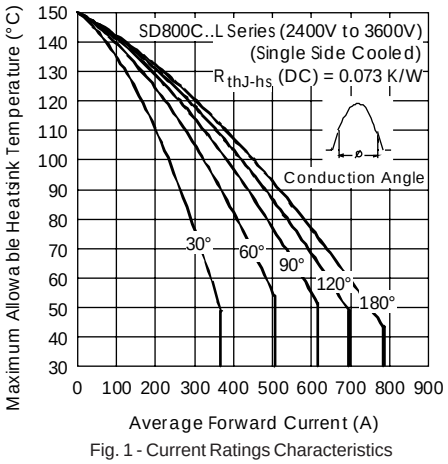


Fig. 1 - Current Ratings Characteristics

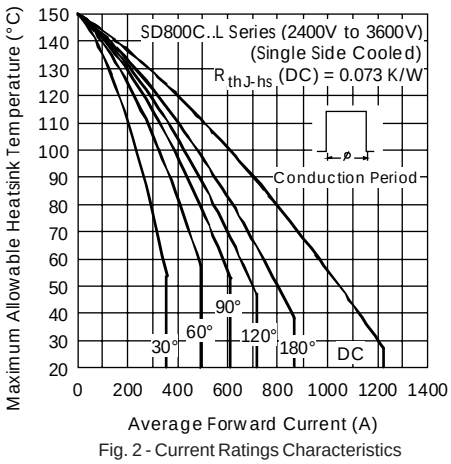


Fig. 2 - Current Ratings Characteristics

STANDARD RECOVERY DIODES

R1200B

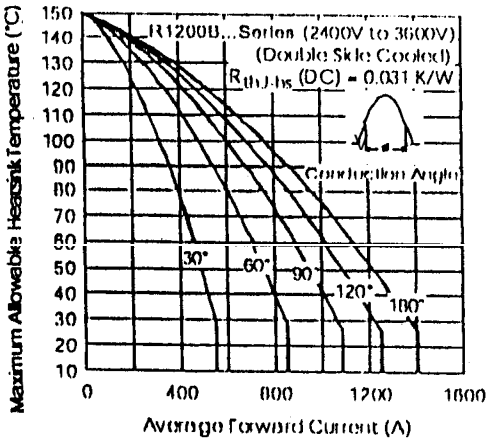


Fig. 3 - Current Ratings Characteristics

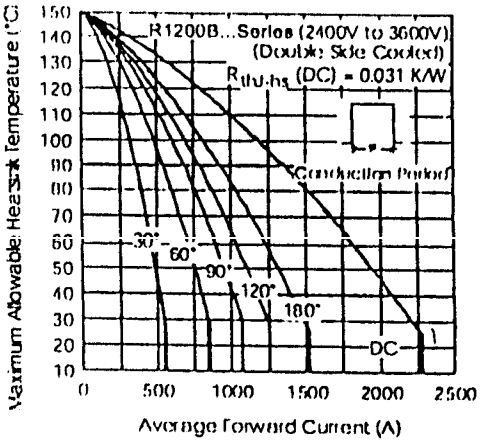


Fig. 4 - Current Ratings Characteristics

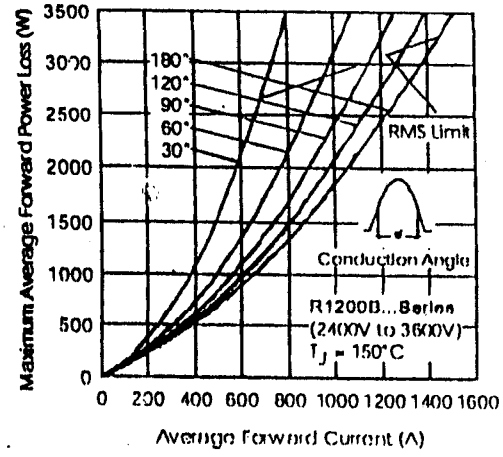


Fig.5 - Forward Power Loss Characteristics

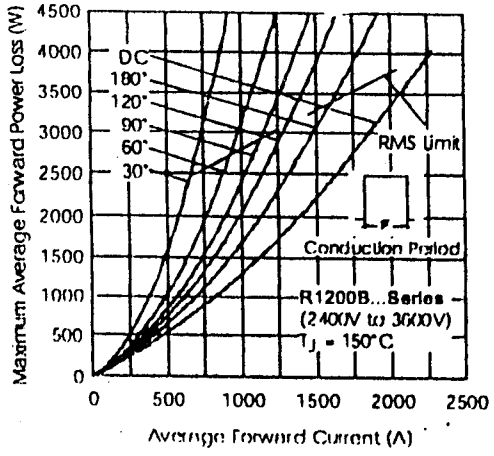


Fig. 6 - Forward Power Loss Characteristics

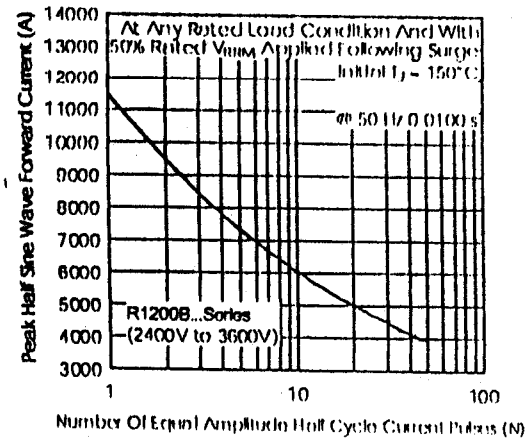


Fig. 7 - Maximum Non-Repetitive Surge Current
Single and Double Side Cooled

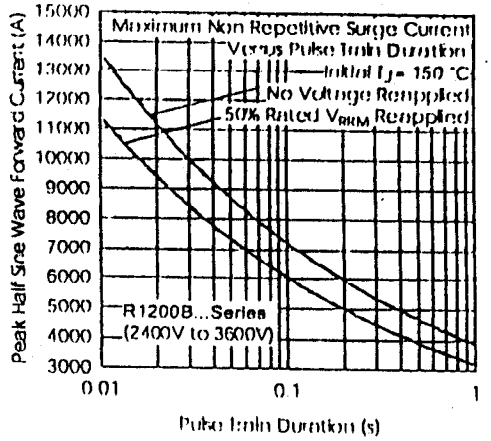


Fig. 8 - Maximum Non-Repetitive Surge Current
Single and Double Side Cooled

STANDARD RECOVERY DIODES

R1200B..Series

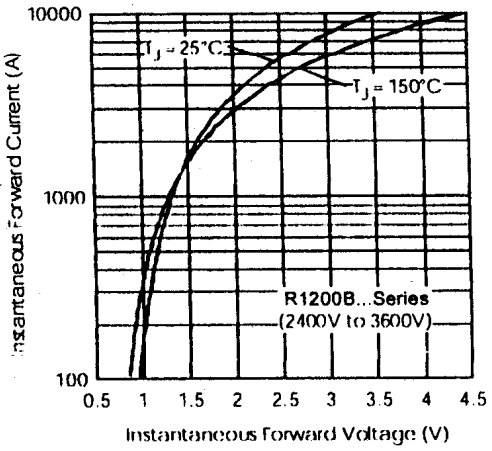


Fig. 9 - Forward Voltage Drop Characteristics

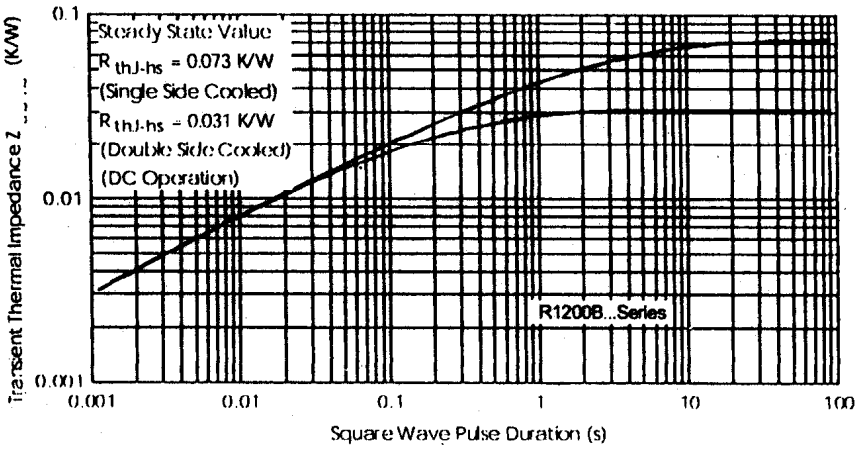


Fig.10 - Thermal Impedance Z_{thJC} Characteristics

Last update : Oct.2007