Ruttonsha International Rectifier Ltd.

RUTTONSHA

SILICON RECTIFIERS

320 Ampere Silicon Power Diodes

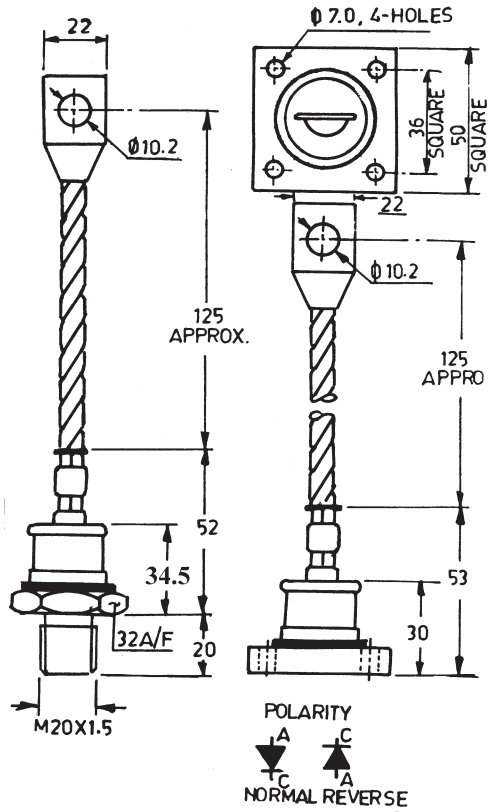
FEATURES

- *All diffused alloyed series.*
- *Mainly available in reverse polarity.*
- *Device conforms to IS 3700 (III) & IS 4400 (III).*
- *Device outline (321 UM/UMR) conforms to IS 5000 (Do. 7).*

ELECTRICAL SPECIFICATIONS

$I_{F(AV)}$	Maximum average forward current T_c = 130°C T_c : 321 UM = 115°C 321 UMR = 130°C T_c : 321 UF = 115°C 321 UFR = 130°C	320 A
V_{FM}	Maximum peak forward voltage drop @ Rated $I_{F(Peak)}$	1.65 V
I_{FSM}	Maximum peak one cycle (non-rep.) surge current 10 msec.	5500 A
I_{FRM}	Maximum repetitive peak forward current	1500 A
I^2t	Max. I^2t rating (non-rep.) 10 msec.	151 KA^2Sec

321 UM/UMR 321 UF/UFR



UNIT :- M.M.

THERMAL MECHANICAL SPECIFICATIONS

θ_{J-C}	Maximum thermal resistance junction to case	321UM/UF 0.15° C/W 321UMR/UFR 0.12° C/W
θ_{C-H}	Contact thermal resistance	321UM/UMR 0.08° C/W 321UF/UFR 0.02° C/W
T_J	Operating junction temp.	-65°C to 150°C
T_{stg}	Storage temperature	-65°C to 200°C
	Mounting torque 321 UM/UMR	3.2 M-Kg min. 3.75 M-Kg max.
	321 UF/UFR (Non-lubricated threads)	0.7 M-Kg min. 0.86 M-Kg max.
W	Approx. weight	330 gms.

ELECTRICAL RATINGS

TYPE	NUMBER 321 UM/UMR 321 UF/UFR	80	100	120	140	160	180	200	230	250
V_{RRM}	Max. repetitive peak reverse voltage (V)	800	1000	1200	1400	1600	1800	2000	2300	2500
V_{RSM}	Max. non-repetitive peak reverse voltage (V)	500	1100	1300	1500	1700	1900	2100	2400	2600
$V_{R(RMS)}$	Max. R.M.S. reverse voltage (V)	560	700	840	980	1120	1260	1400	1610	1750
V_R	Max. D.C. Blocking voltage (V)	800	1000	1200	1400	1600	1800	2000	2300	2500
	Recommended R.M.S. working voltage (V)	320	400	480	560	640	720	800	920	1000
I_{RM}	Max. Peak reverse leakage current @ V_{RRM} T_C (mA)	30	30	30	30	30	30	30	30	30

SILICON RECTIFIERS

321UM/UMR & 321UF/UFR

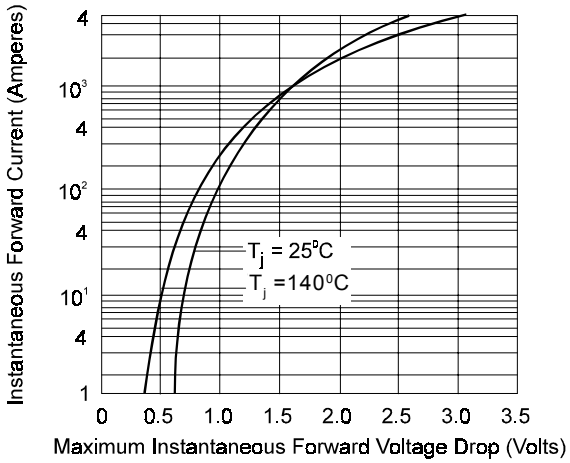


Fig. 1 - Forward Voltage Drop Vs. Forward Current

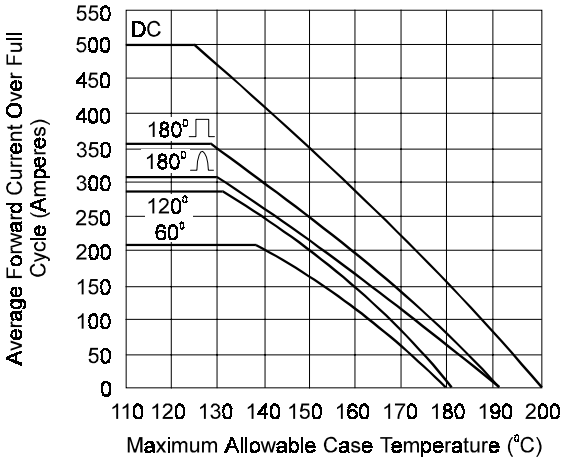


Fig. 2 - Average Forward Current Vs. Case Temperature

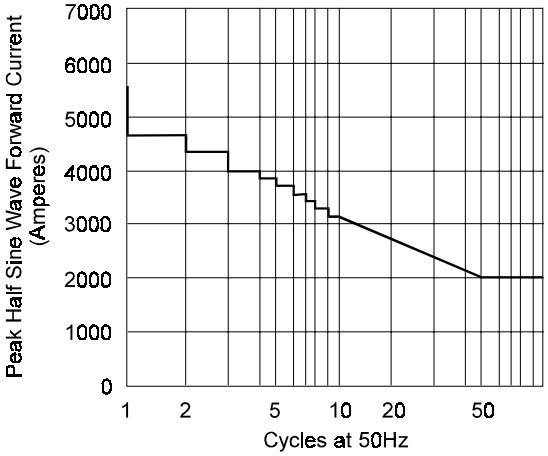


Fig. 3 - Maximum Non Recurrent Surge Current

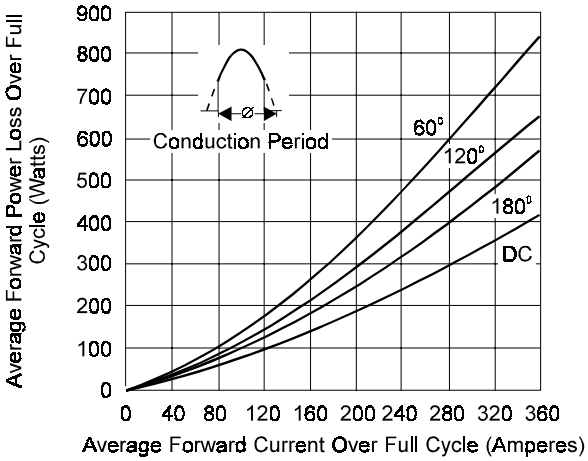


Fig. 4 - Maximum Forward Power Loss Vs. Forward Current

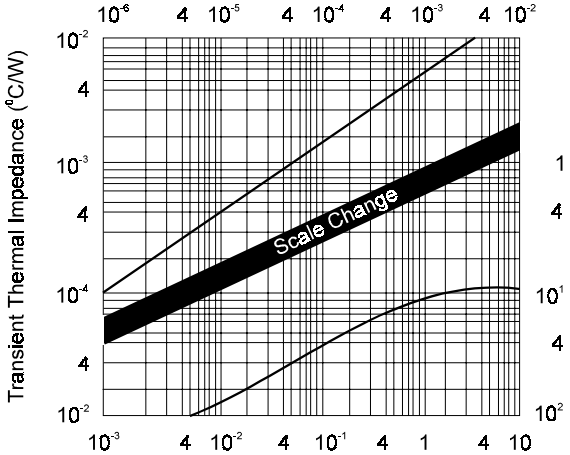


Fig. 5 - Transient Thermal Impedance

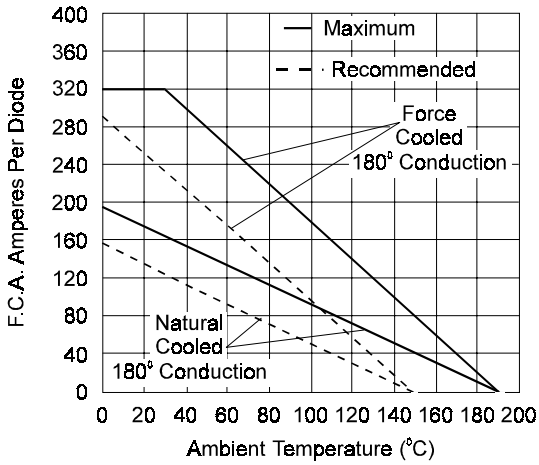


Fig. 6 - Diode 321UM UMR Mounted on Heat Sink Type K5 with θHA-NC 0.55° C/W, FC 0.13°C/W

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