



TME 2011

PRODUCT STANDARD
TME DIVISION, BHOPAL**TM 00325****PAGE 01 OF 03****SPECIFICATION FOR 321 UM/UMR 160 & L38S/L39S HIGH - G DIODES****Application**

Diodes are mounted on a Rotating rectifier assembly on the alternator Shaft. Input to the Diode Wheel is from a 3-phase AC Exciter armature mounted on the main alternator shaft. The full-wave rotating rectifier bridge (Diode Wheel) supplies DC output to the main rotor field of the alternator.

These High-G Diodes have the following details :-

1. Speed of Alternator : 1800 RPM & Over-speed upto 2160 RPM.
2. Diodes : 6 Nos. / Rotating Rectifier 3 Nos. Standard & 3 Nos. reverse.
3. G - Value : High- G Diodes which will be able to withstand acceleration forces of 950 G (min.)
4. Diode Dimensions : See Fig.
5. Input Supply : 18.5 Volt, 367 A AC, 3-phase
6. Output Rating of Diode Wheel : 25 Volt, 450 A DC Cont. rating.
7. Sleeve : The pigtail of the diode must be properly sleeved with glass braided sleeve.
8. Hardware : All Hardware used shall be adequately plated with Zinc or Cadmium to resist rusting / corrosion.

NOTE :

- i) All threads & hardware to be metricated - M20 x 1.5 x 20 LG
- ii) To be supplied alongwith Nut - M20 x 8 TK x 32 A/F. Hex Steel Nut.
- iii) a. Diodes are mounted radially to the rotor shaft at 379 mm diameter on a rotating rectifier. - As per Assy. drg. No. 04303581001, Var.00
- b. Diodes are mounted radially to the rotor shaft at 318 mm diameter on a rotating rectifier. - As per Assy. drg. No. 07211010046, Var.00, & 07211010047, Var.00.

Revision : 01**Distribution****Qty****Approved :****(R.N. Paul, AGM)****Date : 25.10.02****TAM****2****TME****2****Prepared****Checked****25.10.02****Date**

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**PRODUCT STANDARD
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Following routine tests will be conducted on diodes, & test certificate of M/s Ruttonshah / BHEL make will be submitted.

- Forward Voltage
- Reverse Current
- Reverse Voltage
- Thermal Resistance (Steady State)
- Surge forward limit current
- Load test.

Technical drawing of a diode lead assembly. The drawing shows a side view of the assembly with various dimensions and labels.

Dimensions:

- Top flange: 25 (width), 12.5 (radius), 12.5 (hole offset), 7R (fillet radius).
- Top flange hole: HOLE $\phi 12.5$
- Lead length: 125 (IMPORTANT)
- Lead diameter: 11 SQ
- Lead sleeve: 23 (width), 20 (height), 51 (total length), 28 (nut height), 20 (nut width).
- Bottom flange: 23 (width), 20 (height), 20 (width).
- Bottom flange hole: $\phi 20$
- Bottom flange label: *32A/F

Labels:

- DIODE LEAD
- PTFE SLEEVE OVER DIODE LEAD COVERING 20MM OF 11MM SQ PORTION AT ONE END ALSO.
- M20X1.5X20 LG. SCREW
- M20X8TK. HEX. STEEL NUT