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Ultra-Fast-Recovery Rectifiers

RUR-D1610, RUR-D1615, RUR-D1620

File Number 1383

Dual 16-A, High-Speed, High Efficiency Epitaxial Silicon Rectifiers

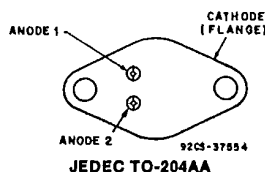
Features:

- Ultra fast recovery time (< 35 ns)
- Low forward voltage
- Low thermal resistance
- Planar design
- Wire-bonded construction

Applications:

- General purpose
- Power switching circuits to 100 kHz
- Full-wave rectification

TERMINAL DESIGNATIONS



The RCA RUR-D1610, RUR-D1615 and RUR-D1620* are low forward voltage drop, ultra fast-recovery rectifiers (trr < 35 ns). They use an ion-implanted planar epitaxial construction.

These devices are intended for use as output rectifiers and fly wheel diodes in a variety of high-frequency pulse-width modulated power supplies, amplifiers and switching regulators. Their low stored charge and attendant fast

reverse recovery behavior minimize electrical noise generation and, in many circuits, markedly reduce the turn-on dissipation of the associated power switching transistors.

All are supplied in steel JEDEC TO-204AA hermetic packages.

*Formerly RCA Developmental Nos. TA9226A, B and C respectively.

MAXIMUM RATINGS, Absolute-Maximum Values, per Junction:

| | RUR-D1610 | RUR-D1615 | RUR-D1620 | |
|--|-----------|------------|-----------|------|
| V _{RM} | 100 | 150 | 200 | V |
| I _F (Average) | | | | |
| T _A = 25°C (No Heat Sink) | | 6 | | A |
| T _A = 25°C (With Heat Sink) ■ | | 16 | | A |
| T _C = 125°C | | 16 | | A |
| I _{FSM} (surge) | | | | |
| 8.3 ms, 1/2 cycle, non-repetitive | | 275 | | A |
| Thermal Resistance (J-C) | | 1.5 | | °C/W |
| Thermal Resistance (J-C) Total | | 1.2 | | °C/W |
| Thermal Resistance (J-A) | | 30 | | °C/W |
| T _{stg} , T _J | | -55 to 150 | | °C |
| T _L (Lead temperature during soldering) | | | | |
| At distance > 1/8 in. (3.17 mm) from case for 10 s max. | | 260 | | °C |

■ Wakefield type 621 heat sink with convection cooling

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