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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

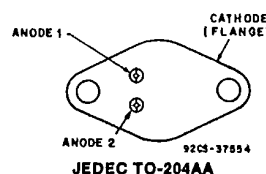
Features:

- 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 ($t_{rr} < 35$ 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)				
$T_A = 25^\circ\text{C}$ (No Heat Sink)		6		A
$T_A = 25^\circ\text{C}$ (With Heat Sink) ■		16		A
$T_C = 125^\circ\text{C}$		16		A
I_{FSM} (surge)				
8.3 ms, 1/2 cycle, non-repetitive		275		A
Thermal Resistance (J-C)		1.5		$^\circ\text{C/W}$
Thermal Resistance (J-C) Total		1.2		$^\circ\text{C/W}$
Thermal Resistance (J-A)		30		$^\circ\text{C/W}$
T_{stg} , T_J		-55 to 150		$^\circ\text{C}$
T_L (Lead temperature during soldering)				
At distance $> 1/8$ in. (3.17 mm) from case for 10 s max.		260		$^\circ\text{C}$

■ Wakefield type 621 heat sink with convection cooling

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