

UNISONIC TECHNOLOGIES CO., LTD

BYR29-600 Preliminary DIODE

RECTIFIER DIODE ULTRAFAST

■ DESCRIPTION

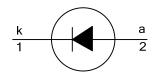
The UTC **BYR29-600** is a rectifier diode and It provides the designers with ultra-fast switching and low switching loss.

The UTC **BYR29-600** is suitable for half-bridge lighting ballasts, half-bridge/full-bridge switched mode power supplies and active power factor correction.

■ FEATURES

- * Low Reverse Recovery Current
- * Ultra-Fast Switching
- * Low Switching Loss
- * Low Thermal Resistance

■ SYMBOL

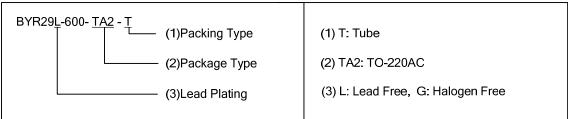


Tab 1

■ ORDERING INFORMATION

| Ordering Number | | Dookogo | Pin / | Assigni | Dooking | | |
|-------------------|-------------------|----------|-------|---------|---------|---------|--|
| Lead Free Plating | Halogen Free | Package | 1 | 2 | Tab | Packing | |
| BYR29L-600-TA2 -T | BYR29G-600-TA2 -T | TO-220AC | K | Α | K | Tube | |

Note: Pin Assignment: A: Anode, K: Cathode, Tab: Mounting Base



■ ABSOLUTE MAXIMUM RATINGS

| PARAMETER | SYMBOL | CONDITIONS | RATINGS | UNIT |
|--------------------------------------|--------------------|---|------------|------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | 600 | V |
| Crest Working Reverse Voltage | V_{RWM} | | 600 | V |
| Continuous Reverse Voltage | V_R | | 600 | V |
| Average Forward Current | I _{F(AV)} | square wave; δ =0.5; T _{Tab} ≤115°C | 8 | Α |
| Repetitive Peak Forward Current | I _{FRM} | t = 25μs; δ =0.5; T _{Tab} ≤115°C | 16 | Α |
| | | t = 10ms | 60 | Α |
| Non-Repetitive Peak Forward Current. | | t = 8.3ms sinusoidal; with reapplied V _{RRM(max)} | 66 | Α |
| Junction Temperature | TJ | | 150 | °C |
| Storage Temperature | T _{STG} | | -40 ~ +150 | °C |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---------------------|---------------|---------|------|
| Junction to Ambient | θ_{JA} | 60 | K/W |
| Junction to Tab | θ_{JB} | 2.5 | K/W |

■ **ELECTRICAL CHARACTERISTICS** (T_J =25°C, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|-------------------------------|------------------|--|-----|------|------|------|
| Forward Voltage | V F | I _F =8A, T _J =150°C | | 1.07 | 1.50 | V |
| | | I _F =20A | | 1.75 | 1.95 | V |
| Reverse Current | l D | $V_R=V_{RRM}$, $T_J=25$ °C | | 1.0 | 10 | μΑ |
| | | V _R = V _{RRM} , T _J =100°C | | 0.1 | 0.2 | mA |
| Reverse Recovery Charge | Qs | I _F =2A ~ V _R ≥30 V, dI _F /dt =20A/µs | | 150 | 200 | nC |
| Reverse Recovery Time | t _{RR} | I _F =1A ~ V _R ≥30 V, dI _F /dt=100A/μs | | 60 | 75 | ns |
| Peak Reverse Recovery Current | I _{RRM} | I _F =10A ~V _R ≥30 V, dI _F /dt=50A/µs, T _J =100°C | | | 6 | Α |
| Forward Recovery Voltage | V_{FR} | I _F =10A, dI _F /dt=10A/μs | | 5.0 | | V |

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