



| ELECTRICAL CHARACTERISTICS ($T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | |
|--|---|-----------------------------------|-------------|-----------------------------------|---------------|
| PARAMETER | TEST CONDITIONS | | SYMBOL | VALUE | UNIT |
| Maximum instantaneous forward voltage per diode | $I_F = 10\text{ A}$ | $T_J = 25\text{ }^\circ\text{C}$ | $V_F^{(1)}$ | 1.25 | V |
| | $I_F = 5\text{ A}$ | | | 1.10 | |
| | | | | $T_J = 150\text{ }^\circ\text{C}$ | |
| Maximum reverse current per diode at working peak reverse voltage | | $T_J = 25\text{ }^\circ\text{C}$ | I_R | 10 | μA |
| | | $T_J = 100\text{ }^\circ\text{C}$ | | 200 | |
| | | | | | |
| Maximum reverse recovery time per diode | $I_F = 1.0\text{ A}$, $dI/dt = 100\text{ A}/\mu\text{s}$, $V_R = 30\text{ V}$, $I_{rr} = 0.1 I_{RM}$ | | t_{rr} | 25 | ns |
| Maximum reverse recovery time per diode | $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$ | | t_{rr} | 20 | ns |
| Maximum stored charge per diode | $I_F = 2\text{ A}$, $dI/dt = 20\text{ A}/\mu\text{s}$, $V_R = 30\text{ V}$, $I_{rr} = 0.1 I_{RM}$ | | Q_{rr} | 9 | nC |

Note

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

| THERMAL CHARACTERISTICS ($T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|-----------------|--------|---------|---------|---------------------------|
| PARAMETER | SYMBOL | UG10 | UGF10 | UGB10 | UNIT |
| | | BYQ28E | BYQ28EF | BYQ28EB | |
| Typical thermal resistance per diode, junction to ambient | $R_{\theta JA}$ | 50 | 55 | 50 | $^\circ\text{C}/\text{W}$ |
| Typical thermal resistance per diode, junction to case | $R_{\theta JC}$ | 4.5 | 6.7 | 4.8 | |

| ORDERING INFORMATION (Example) | | | | | |
|---------------------------------------|-----------------------------------|-----------------|--------------|---------------|---------------|
| PACKAGE | PREFERRED P/N | UNIT WEIGHT (g) | PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| TO-220AB | BYQ28E-200-E3/45 | 1.80 | 45 | 50/tube | Tube |
| ITO-220AB | BYQ28EF-200-E3/45 | 1.95 | 45 | 50/tube | Tube |
| D ² PAK (TO-263AB) | BYQ28EB-200-E3/45 | 1.77 | 45 | 50/tube | Tube |
| D ² PAK (TO-263AB) | BYQ28EB-200-E3/81 | 1.77 | 81 | 800/reel | Tape and reel |
| ITO-220AB | BYQ28EF-200HE3_A/P ⁽¹⁾ | 1.95 | P | 50/tube | Tube |
| D ² PAK (TO-263AB) | BYQ28EB-200HE3_A/P ⁽¹⁾ | 1.95 | P | 50/tube | Tube |
| D ² PAK (TO-263AB) | BYQ28EB-200HE3_A/I ⁽¹⁾ | 1.95 | I | 800/reel | Tape and reel |

Note

(2) AEC-Q101 qualified, available in ITO-220AB and D²PAK (TO-263AB) package



RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

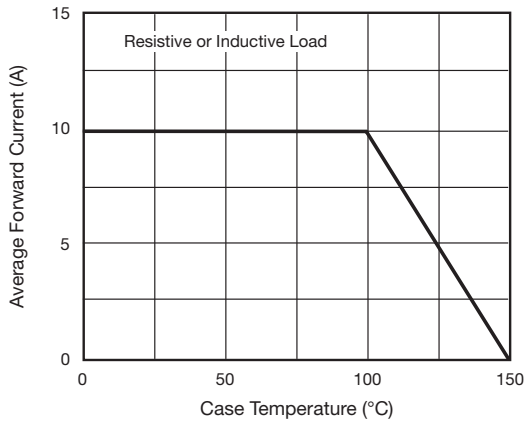


Fig. 1 - Forward Current Derating Curve

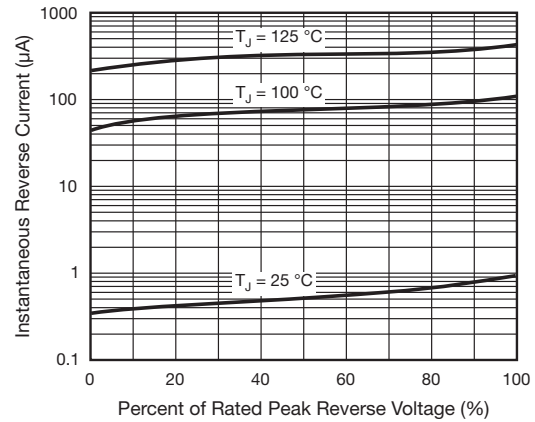


Fig. 4 - Typical Reverse Characteristics Per Diode

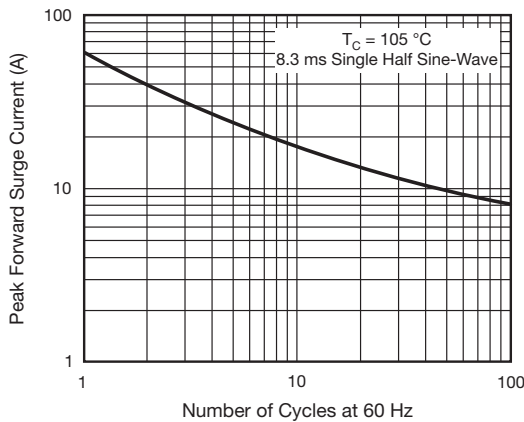


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

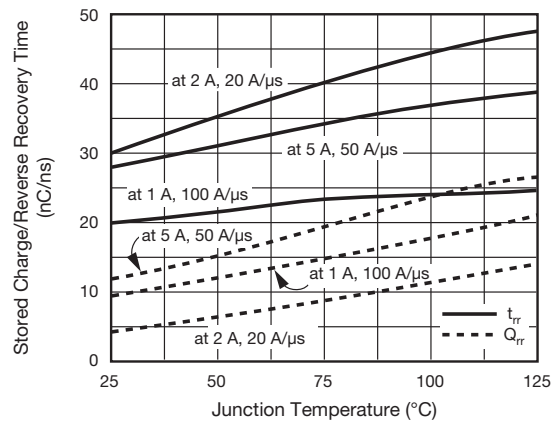


Fig. 5 - Reverse Switching Characteristics Per Diode

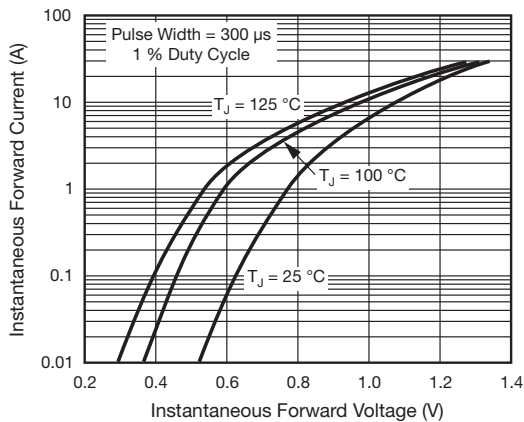


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

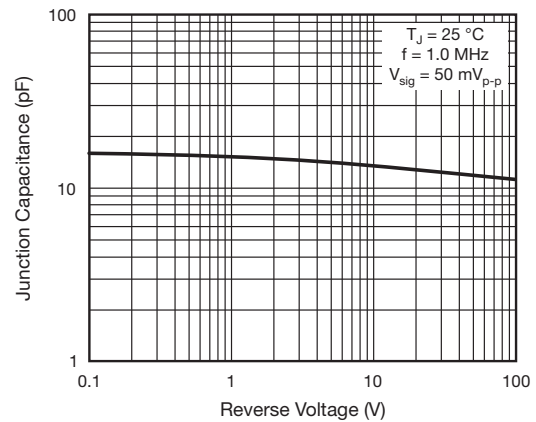
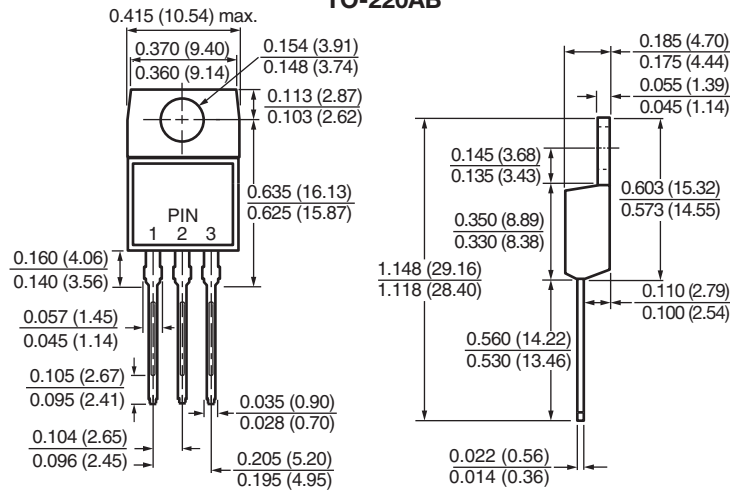


Fig. 6 - Typical Junction Capacitance Per Diode

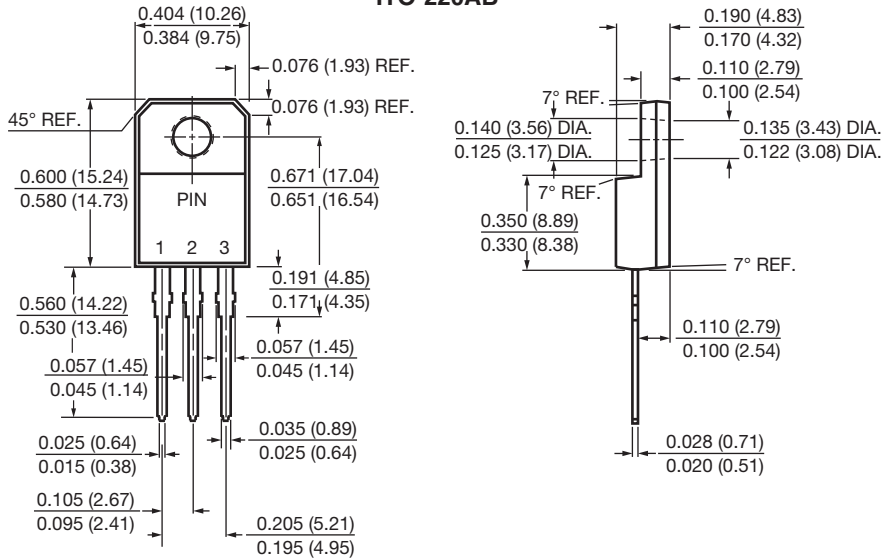


PACKAGE OUTLINE DIMENSION in inches (millimeters)

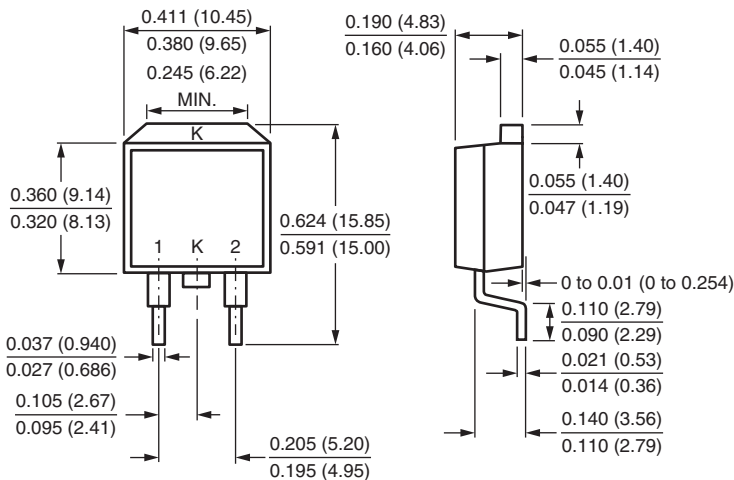
TO-220AB



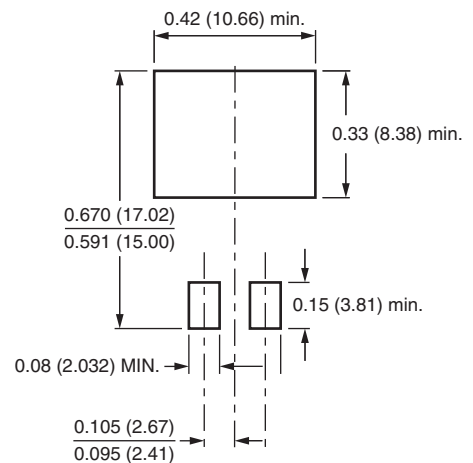
ITO-220AB



D²PAK (TO-263AB)



Mounting Pad Layout





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