

ACDBQC0240LR-HF High-Reliability and High-Performance

$I_o = 200\text{ mA}$
 $V_R = 40\text{ Volts}$
RoHS Device
Halogen Free

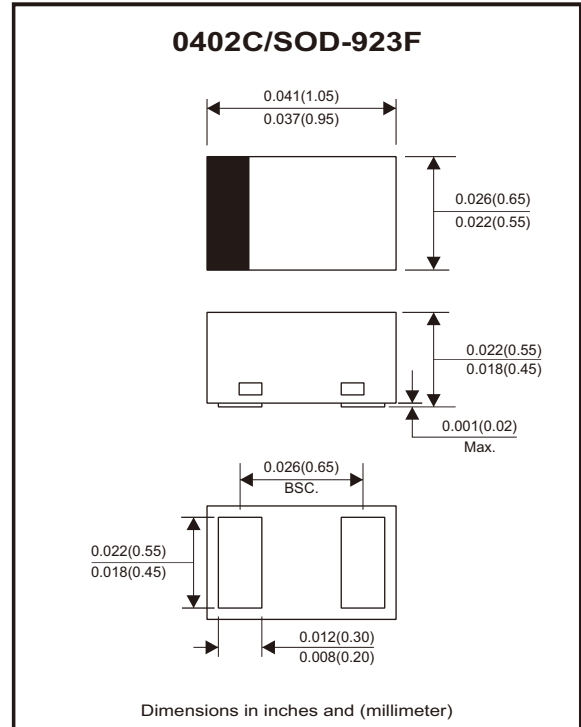


Features

- Low reverse current, low forward voltage.
- Designed for mounting on small surface.
- Extremely thin/leadless package.
- Majority carrier conduction.
- AEC-Q101 Qualified.

Mechanical data

- Case: 0402C/SOD-923F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.
- Weight: 0.001 grams (approx.).



Circuit Diagram



Maximum Rating (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|--|---|-----------------|-----|-----|------|--------------------|
| Repetitive peak reverse voltage | | V_{RRM} | | | 40 | V |
| Reverse voltage | | V_R | | | 40 | V |
| Average forward rectified current | | I_o | | | 200 | mA |
| Peak forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) * 1cycle | I_{FSM} | | | 3 | A |
| Thermal resistance junction to ambient | | $R_{\theta JA}$ | | | 310 | $^\circ\text{C/W}$ |
| Operating temperature range | | T_J | -40 | | +125 | $^\circ\text{C}$ |
| Storage temperature range | | T_{STG} | -55 | | +150 | $^\circ\text{C}$ |

Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-----------------|---|--------|-----|-----|------|---------------|
| Forward voltage | $I_F = 100\text{mA}$ | V_F | | | 0.48 | V |
| | $I_F = 200\text{mA}$ | V_F | | | 0.58 | V |
| Reverse current | $V_R = 40\text{V}$ | I_R | | | 5 | μA |
| Capacitance | $f = 1\text{MHz}$, and 1 VDC reverse voltage | C_T | | 25 | 35 | pF |

Rating and Characteristic Curves (ACDBQC0240LR-HF)

Fig.1 - Forward Characteristics

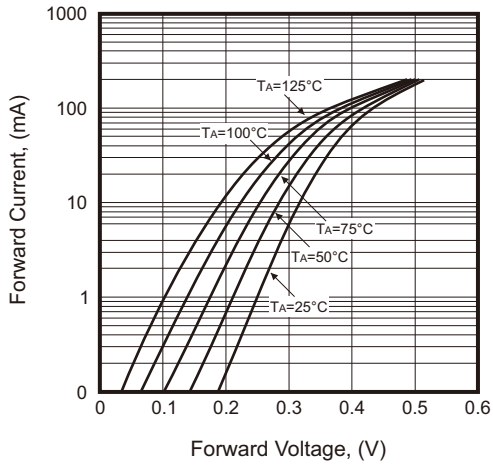


Fig.2 - Reverse Characteristics

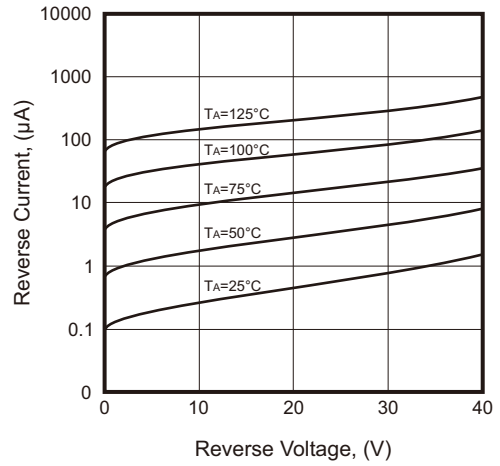


Fig.3 - Typical Capacitance Between Terminals Characteristics

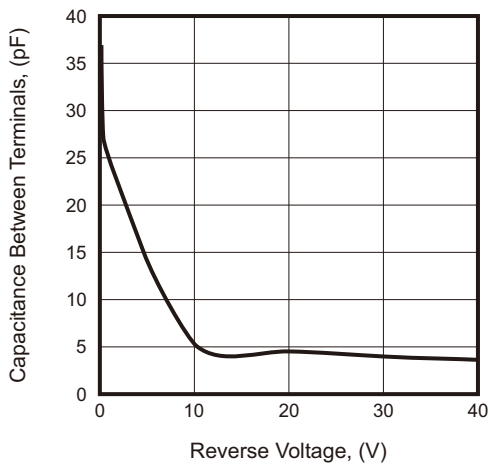
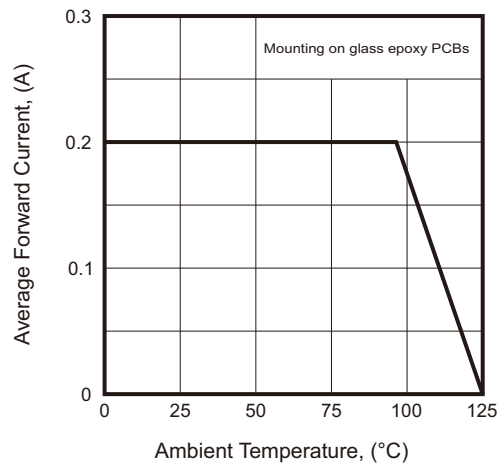
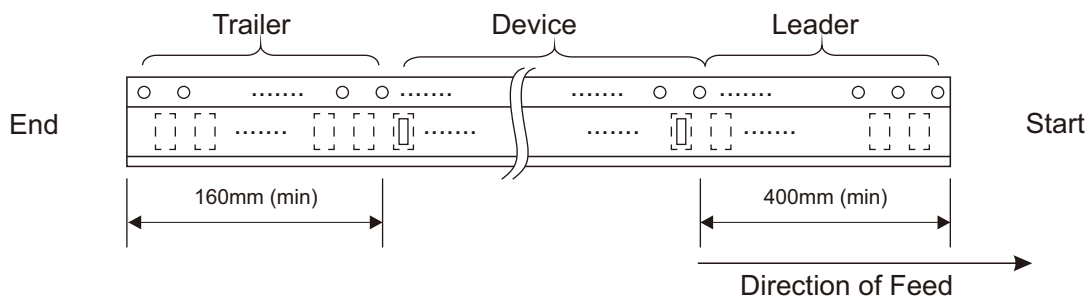
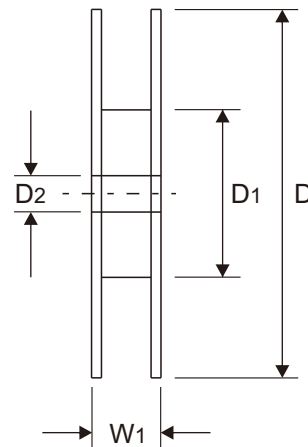
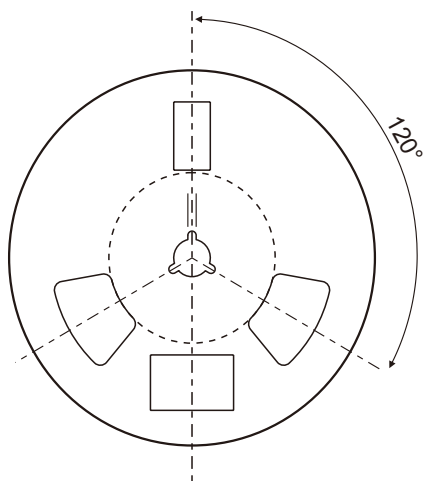
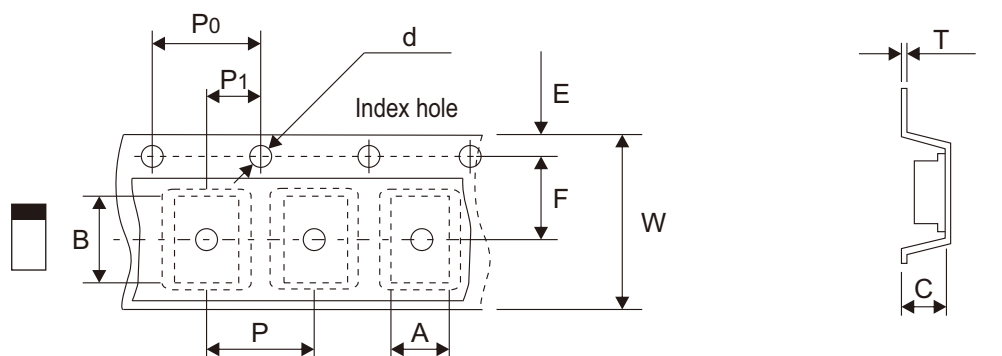


Fig.4 - Forward Current Derating Curve



Reel Taping Specification



| 0402C (SOD-923F) | SYMBOL | A | B | C | d | D | D1 | D2 |
|---------------------|--------|---------------|---------------|---------------|--------------------------|---------------|---------------|---------------|
| | (mm) | 0.78 ± 0.05 | 1.25 ± 0.05 | 0.65 ± 0.05 | 1.50 + 0.10 - 0.00 | 178.00 ± 1.00 | 60.00 ± 0.50 | 13.50 ± 0.20 |
| | (inch) | 0.031 ± 0.002 | 0.049 ± 0.002 | 0.026 ± 0.002 | 0.059 + 0.004 - 0.000 | 7.008 ± 0.039 | 2.362 ± 0.020 | 0.531 ± 0.008 |

| 0402C (SOD-923F) | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|---------------------|--------|---------------|---------------|---------------|---------------|---------------|--------------------------|---------------|--------------------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.10 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.20 + 0.03 - 0.05 | 8.00 ± 0.20 | 12.00 + 0.50 - 0.00 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.008 + 0.001 - 0.002 | 0.315 ± 0.008 | 0.472 + 0.020 - 0.000 |

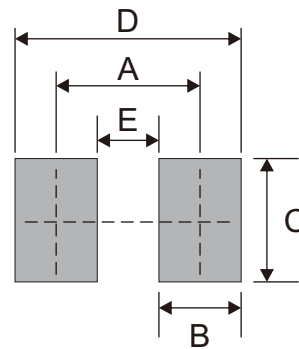
Marking Code

| Part Number | Marking Code |
|-----------------|--------------|
| ACDBQC0240LR-HF | BX |



Suggested P.C.B. PAD Layout

| SIZE | 0402C/SOD-923F | |
|------|----------------|--------|
| | (mm) | (inch) |
| A | 0.70 | 0.028 |
| B | 0.40 | 0.016 |
| C | 0.60 | 0.024 |
| D | 1.10 | 0.043 |
| E | 0.30 | 0.012 |



Standard Packaging

| Case Type | REEL PACK | |
|----------------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| 0402C/SOD-923F | 5,000 | 7 |