

450mA, 75V Switching Diode

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Compliance to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: QUADRO Mini-MELF(LS34)
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 0.06 (approximately)

| KEY PARAMETERS | | |
|----------------------|-------------|------|
| PARAMETER | VALUE | UNIT |
| $I_{F(AV)}$ | 450 | mA |
| V_{RRM} | 75 | V |
| I_{FSM} | 2 | A |
| V_F at $I_F=100mA$ | 1.00 | V |
| $T_{J\ MAX}$ | 175 | °C |
| Package | LS34 | |
| Configuration | Single dice | |



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | PART NUMBER | UNIT |
|---------------------------------|-------------|-------------|------|
| Repetitive peak reverse voltage | V_{RRM} | 75 | V |
| Forward current | $I_{F(AV)}$ | 450 | mA |
| Peak Forward Surge Current | I_{FSM} | 2 | A |
| Junction temperature range | T_J | -65 ~ 175 | °C |
| Storage temperature range | T_{STG} | -65 ~ 175 | °C |

THERMAL PERFORMANCE

| PARAMETER | SYMBOL | LIMIT | UNIT |
|--|-----------------|-------|------|
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 300 | °C/W |

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|---|---------------|------------|------------|----------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage per diode ⁽¹⁾ | LS4448, LS914B $I_F = 5.0\text{mA}$, $T_J = 25^\circ\text{C}$ | V_F | -- | 0.72 | V |
| | LS4148 $I_F = 10.0\text{mA}$, $T_J = 25^\circ\text{C}$ | | -- | 1.0 | |
| | LS4448, LS914B $I_F = 100\text{mA}$, $T_J = 25^\circ\text{C}$ | | -- | 1.0 | |
| Reverse current @ rated V_R per diode ⁽²⁾ | $V_R = 20\text{V}$ $T_J = 25^\circ\text{C}$ | I_R | -- | 25 | nA |
| | $V_R = 75\text{V}$ $T_J = 25^\circ\text{C}$ | | -- | 5 | μA |
| Junction capacitance | 1 MHz, $V_R = 0\text{V}$ | C_J | -- | 4 | ρF |

Notes:

1. Pulse test with $PW = 0.3\text{ ms}$
2. Pulse test with $PW = 30\text{ ms}$

| ORDERING INFORMATION | | | | |
|-----------------------------|---------------------|----------------------------|---------------------|----------------|
| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
| LS4148 (Note 1) | L0 | G | QUADRO Mini-MELF | 10K / 13" Reel |
| | L1 | | | 2.5K / 7" Reel |

Notes:

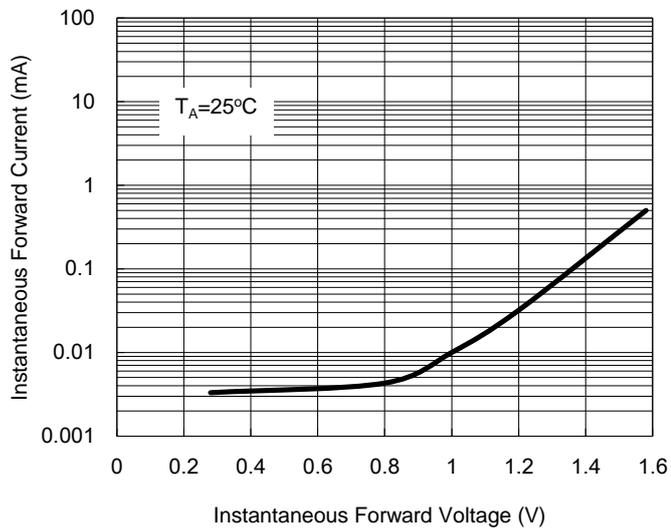
1. Whole series with green compound

| EXAMPLE | | | | |
|--------------------|-----------------|---------------------|----------------------------|--------------------|
| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| LS4148 L0G | LS4148 | L0 | G | Green compound |

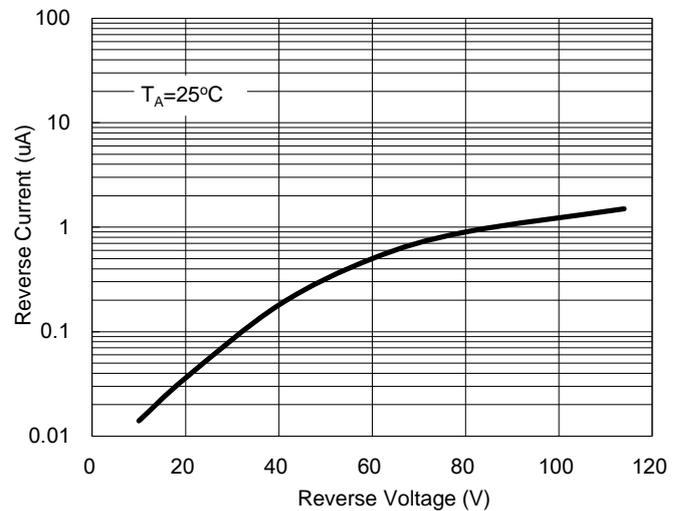
CHARACTERISTICS CURVES

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

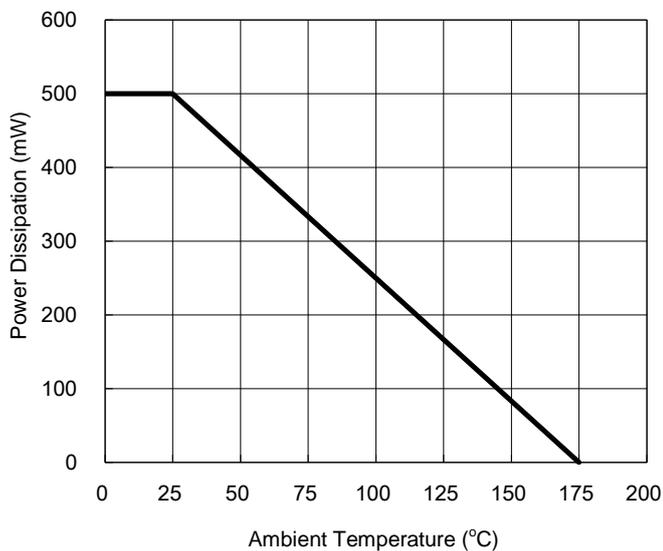
Typical Forward Characteristics



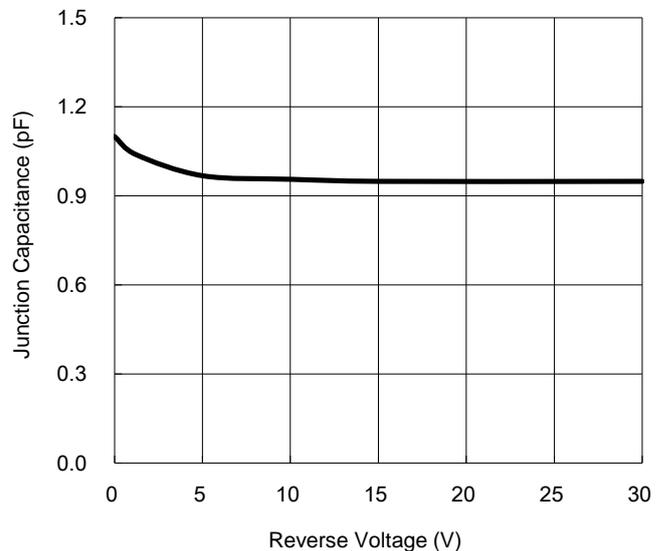
Reverse Current VS. Reverse Voltage



Admissible Power Dissipation Curve

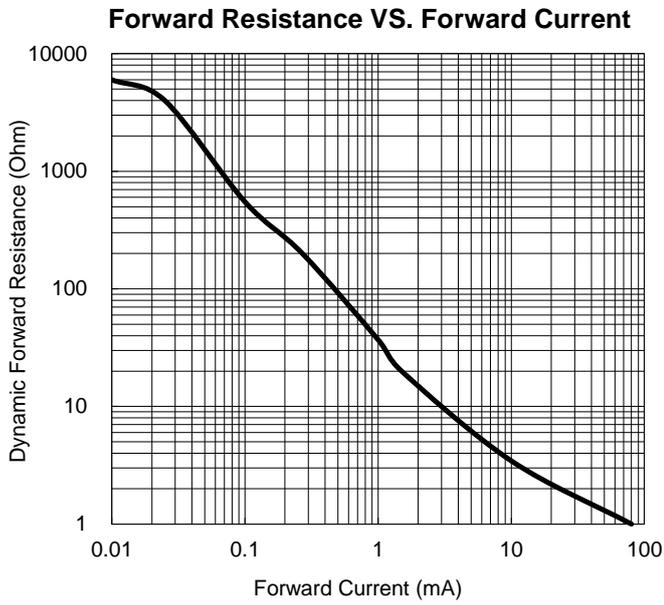


Typical Junction Capacitance

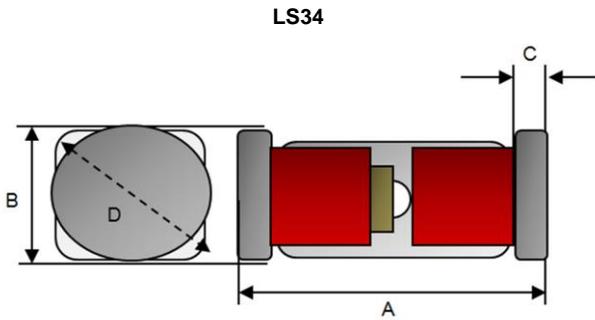


CHARACTERISTICS CURVES

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

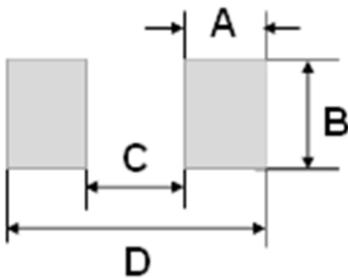


PACKAGE OUTLINE DIMENSION



| DIM. | Unit(mm) | | Unit(inch) | |
|------|-----------|------|------------|-------|
| | Min | Max | Min | Max |
| A | 3.30 | 3.70 | 0.130 | 0.146 |
| B | 1.40 | 1.60 | 0.055 | 0.063 |
| C | 0.20 | 0.45 | 0.008 | 0.018 |
| D | Typ. 1.80 | | Typ. 0.071 | |

SUGGEST PAD LAYOUT



| DIM. | Unit(mm) | Unit(inch) |
|------|----------|------------|
| | Typ. | Typ. |
| A | 1.25 | 0.049 |
| B | 2.00 | 0.079 |
| C | 2.50 | 0.098 |
| D | 5.00 | 0.197 |

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