

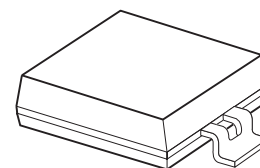
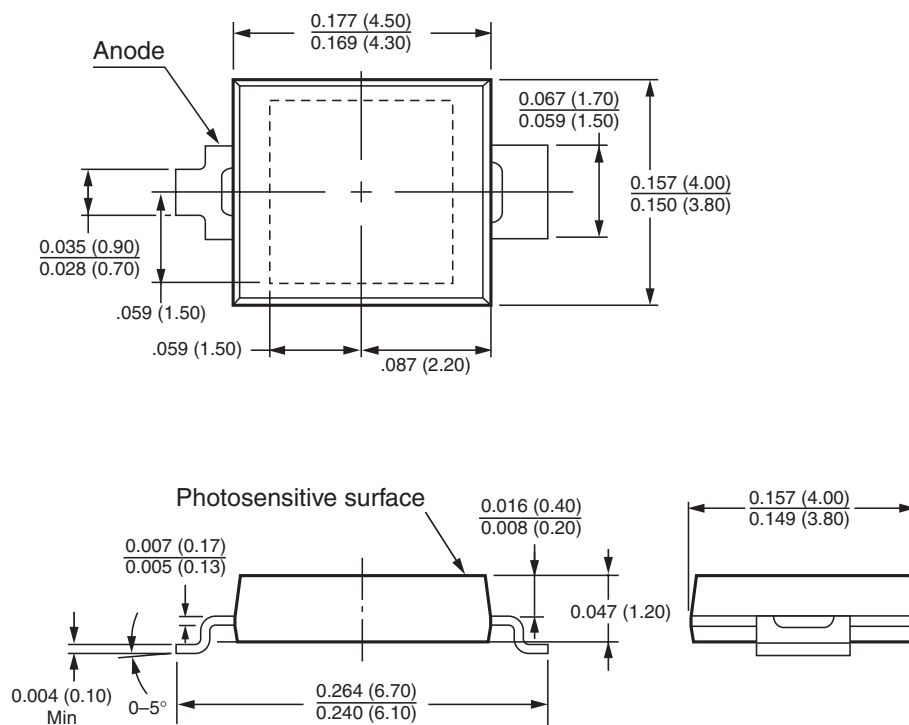
QSB34GR, QSB34ZR, QSB34CGR, QSB34CZR Surface Mount Silicon Pin Photodiode

Features

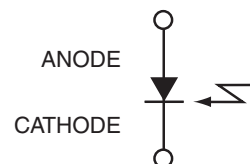
- Daylight Filter (QSB34GR and QSB34ZR only)
- Surface Mount Packages:
 - QSB34GR/QSB34CGR for overmount board
 - QSB34ZR/QSB34CZR for undermount board
- Fast PIN Photodiode
- Wide Reception Angle, 120°

- Large Chip Size = .014 in² (9 mm²)
- High Sensitivity
- Low Capacitance
- Available in 0.470" (12mm) width tape on 7" (178mm) diameter reel; 1,000 units per reel

Package Dimensions, QSB34GR



Schematic



Note:

1. Dimensions for all drawings are in inches (mm).
2. Tolerance of ±.005 (.13) on all non-nominal dimensions unless otherwise specified.

Absolute Maximum Ratings (T_A = 25°C unless otherwise specified)

Symbol	Parameter	Rating	Unit
T _{OPR}	Operating Temperature	-25 to +85	°C
T _{STG}	Storage Temperature	-40 to +85	°C
T _{SOL}	Soldering Temperature	260	°C
V _R	Reverse Voltage	32	V
P _C	Power Dissipation at (or below) 25°C Free Air Temperature	150	mW

Note:

1. Soldering time ≤ 5 seconds

Electrical/Optical Characteristics (T_A = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _R	Reverse Voltage	I _R = 0.1mA	32			V
I _{R(D)}	Dark Reverse Current	V _R = 10V			30	nA
λ _{PK}	Peak Sensitivity	V _R = 5V		940		nm
Θ	Reception Angle @ 1/2 Power			±60		°
I _{PH}	Photo Current	E _e = 1.0mW/cm ² , V _{CE} = 5V ⁽⁴⁾	25	37		μA
C	Capacitance	V _R = 3V		25		pF
t _r	Rise Time	V _R = 10V, R _L = 50Ω		50		ns
t _f	Fall Time	V _R = 10V, R _L = 50Ω		50		ns
λ _{0.5}	Spectral Sensitivity QSB34GR, QSB34ZR QSB34CGR, QSB34CZR		730 400		1100 1100	nm

Typical Performance Curves

Fig. 1 Relative Spectral Sensitivity vs. Wavelength

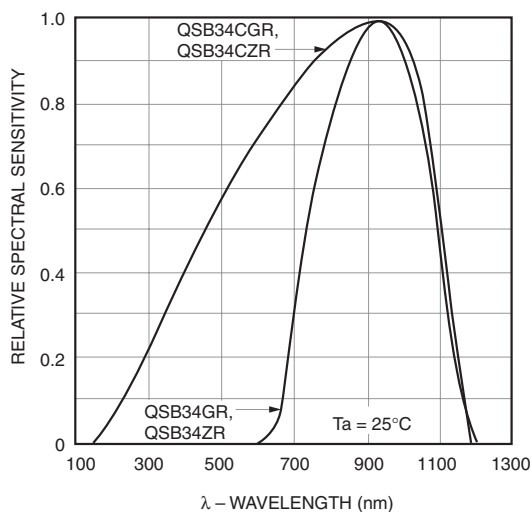


Fig. 2 Short Circuit Current vs. Irradiance

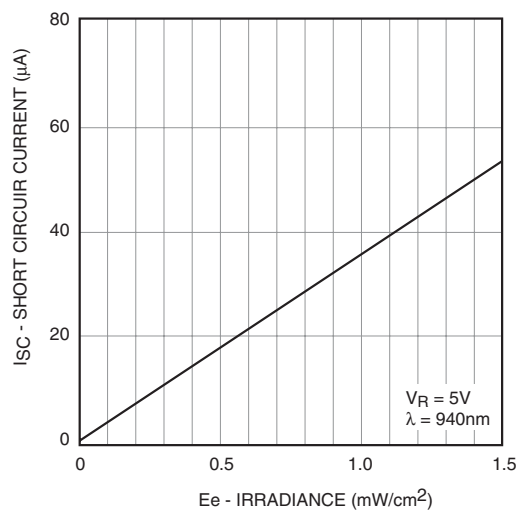


Fig. 3 Capacitance vs. Reverse Voltage

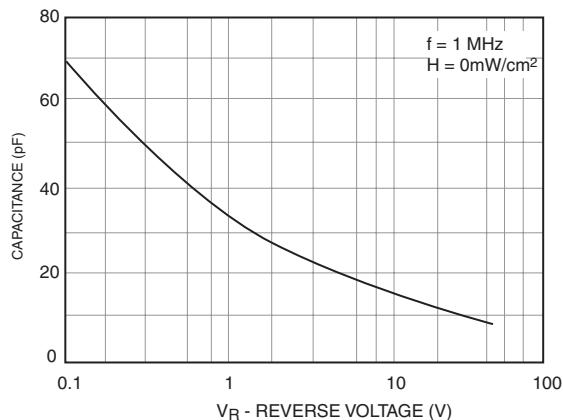


Fig. 4 Dark Current vs. Temperature

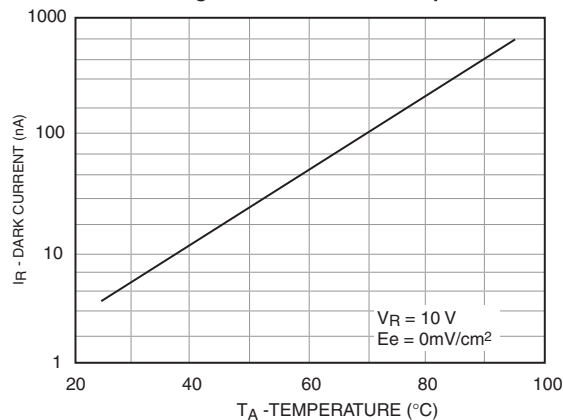


Fig. 5 Dark Current vs. Reverse Voltage

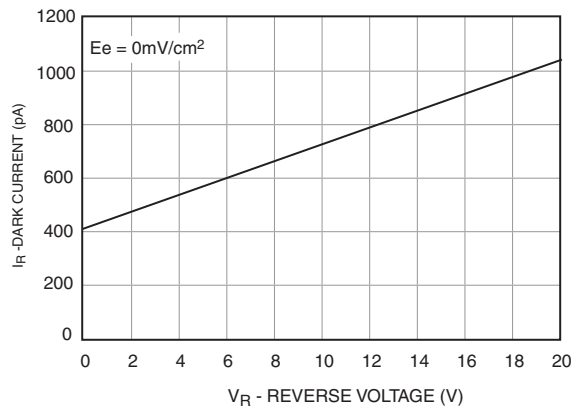
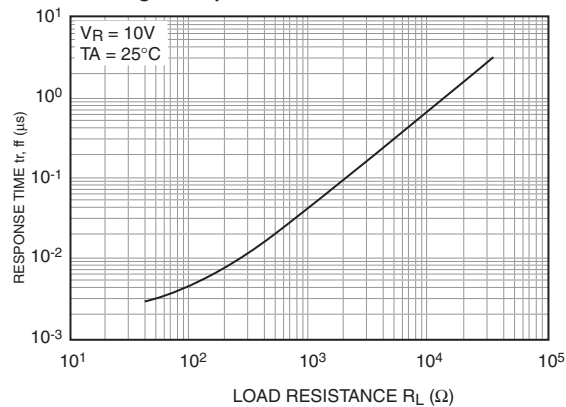
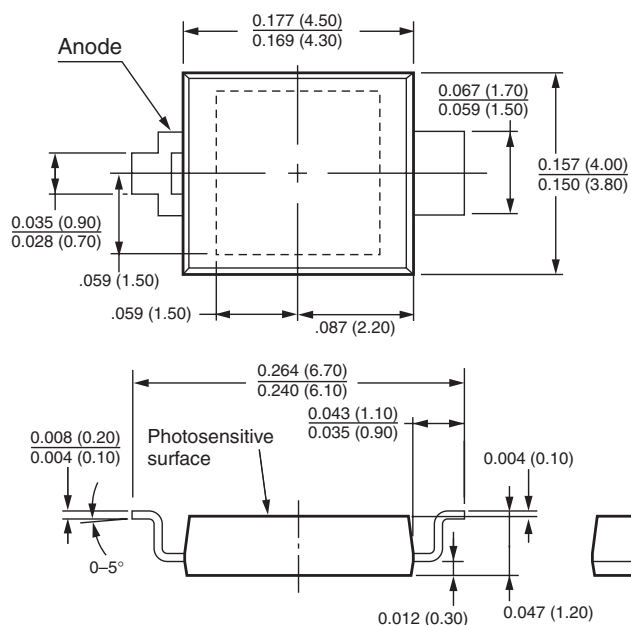


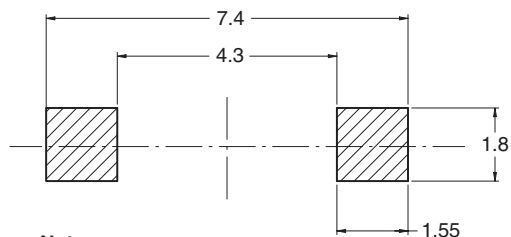
Fig. 6 Response Time vs. Load Resistance



Package Dimensions, QSB34ZR



Recommended Solder Screen Pattern (For Reference Only)



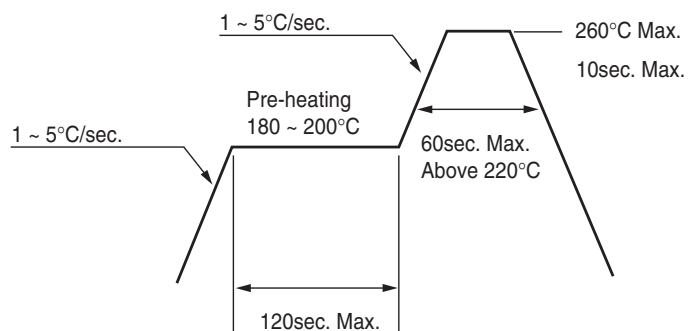
Note:

1. All dimensions in mm
2. Pattern applies to both QSB34GR and QSB34Z

Note:

1. Dimensions for all drawings are in inches (mm).
2. Tolerance of ± 0.005 (.13) on all non-nominal dimensions unless otherwise specified.

Recommend IR Reflow Soldering Profile



Tape & Reel Dimensions

Unit: mm

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