

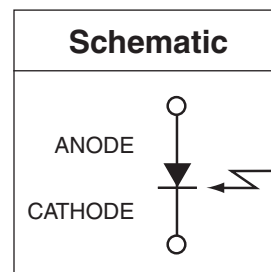
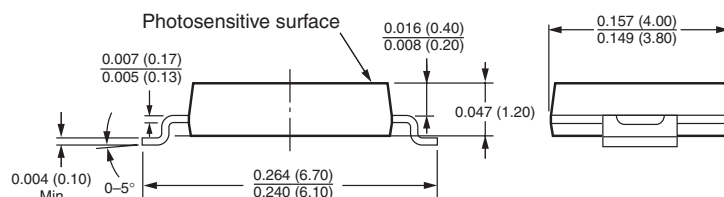
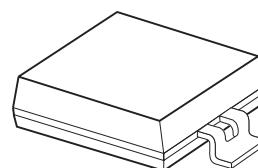
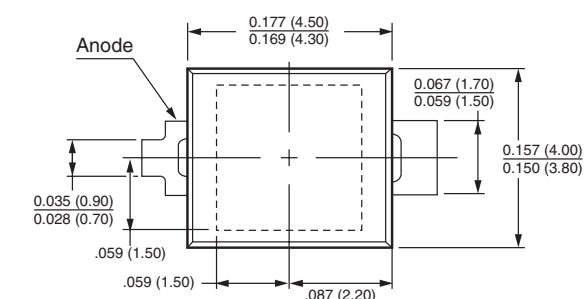
QSB34GR, QSB34ZR, QSB34CGR, QSB34CZR

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



NOTE:

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

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-25 to +85	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to +85	$^\circ\text{C}$
Soldering Temperature	T_{SOL}	260	$^\circ\text{C}$
Reverse Voltage	V_R	32	V
Power Dissipation at (or below) 25°C Free Air Temperature	P_C	150	mW

Note:

1. Soldering time ≤ 5 seconds

Electrical/Optical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Units
Reverse Voltage	$I_R = 0.1 \text{ mA}$	V_R	32		—	V
Dark Reverse Current	$V_R = 10 \text{ V}$	$I_{R(D)}$	—		30	nA
Peak Sensitivity	$V_R = 5 \text{ V}$	λ_{PK}		940		nm
Reception Angle @ 1/2 Power		Θ		± 60		Degrees
Photo Current	$E_e = 1.0 \text{ mW/cm}^2$, $V_{CE} = 5 \text{ V}^{(4)}$	I_{PH}	25	37	—	μA
Capacitance	$V_R = 3 \text{ V}$	C		25		pF
Rise Time	$V_R = 10 \text{ V}$, $R_L = 50 \Omega$	t_r		50		ns
Fall Time		t_f		50		ns
Spectral Sensitivity QSB34GR, QSB34ZR QSB34CGR, QSB34CZR		$\lambda_{0.5}$	730 400		1100 1100	nm

Typical Performance Curves

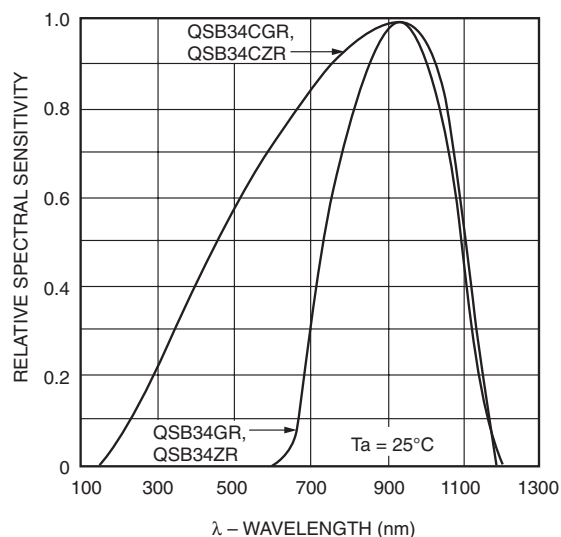


Fig. 1 Relative Spectral Sensitivity vs. Wavelength

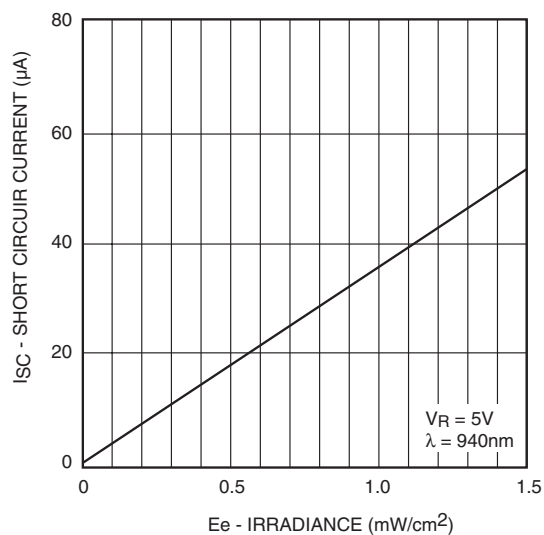
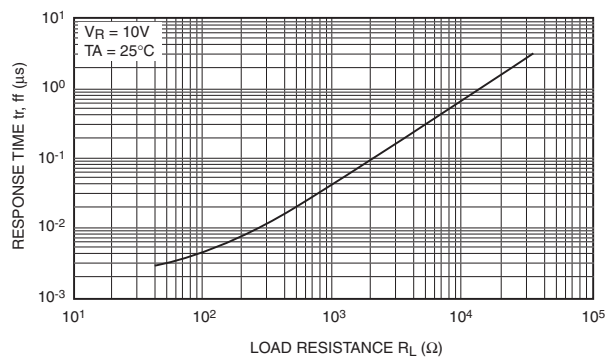
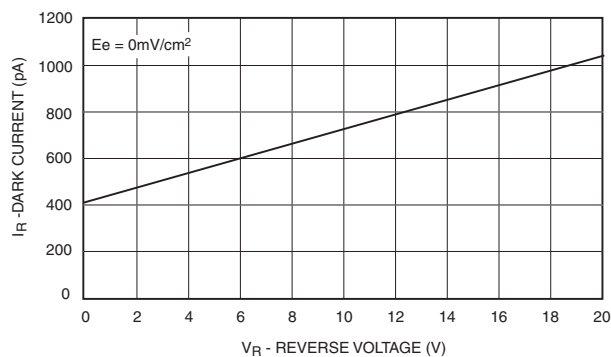
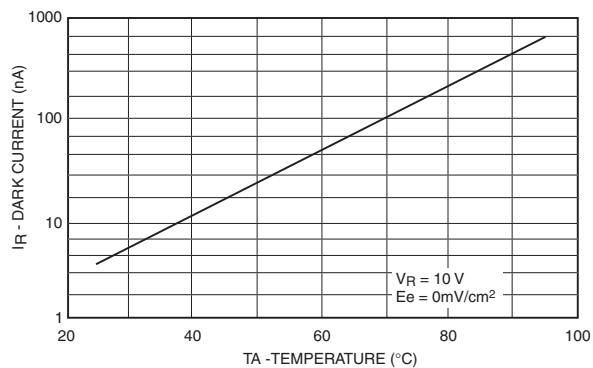
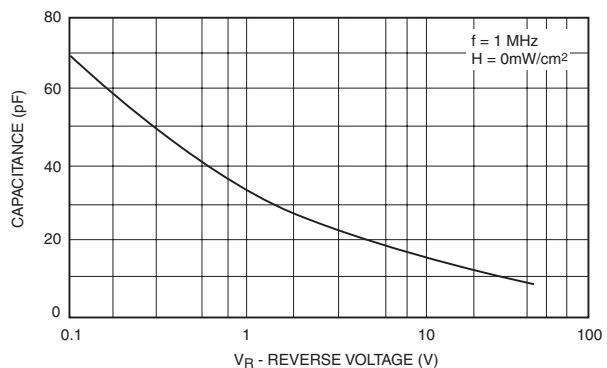
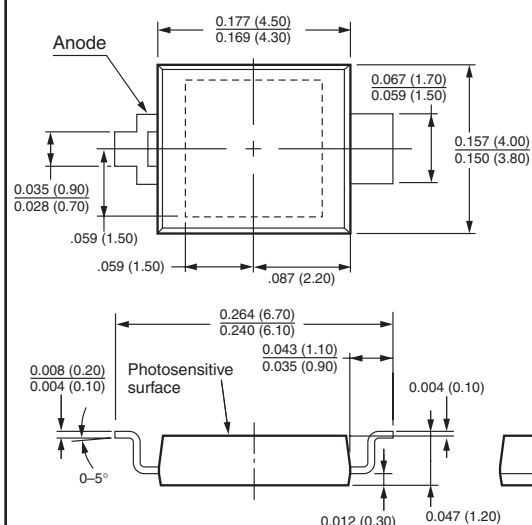


Fig. 2 Short Circuit Current vs. Irradiance

Typical Performance Curves (Cont.)



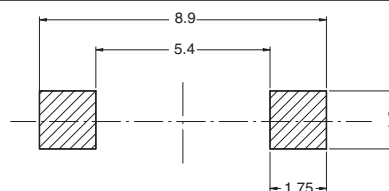
PACKAGE DIMENSIONS, QSB34ZR



NOTE:

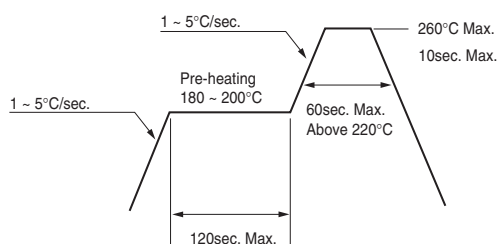
1. Dimensions for all drawings are in inches (mm).
2. Tolerance of ± 0.005 (.13) on all non-nominal dimensions unless otherwise specified.

RECOMMENDED SOLDER SCREEN PATTERN (For Reference Only)



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

RECOMMENDED IR REFLOW SOLDERING PROFILE



Ordering Information

Option	Description
QSB34GR	Gullwing, 1000 units per reel
QSB34ZR	Z-Bend reversed, 1000 units per reel
QSB34CGR	Gullwing, 1000 units per reel
QSB34CZR	Z-Bend reversed, 1000 units per reel

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