

FEATURES

- Silicon Planar PIN Photodiode
- Daylight Filter
- High Spectral Sensitivity
- Short Switching Time
- Usage: Near Infrared Range (780 to 1100 nm)
- Wide Temperature Range
- High Reliability
- No Testable Degradation
- High Cutoff Frequency
- High Packing Density
- Use as Photodiode or Photovoltaic Cell
- N-Si Material: Anode=Front Contact, Cathode=Back Contact
- Low Capacitance
- Applications
 - IR Remote Control
 - IR Sound Transmission
 - Reflective Switches
- Package: Black Epoxy Resin
BPW 34F: 0.200" (5.08 mm) Lead Spacing
BPW 34FAS: Surface Mount Package
- Cathode Marking: Projection on Solder Tab

Maximum Ratings

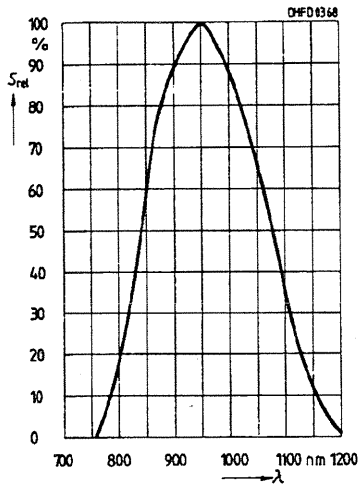
Operating and Storage Temperature Range (T_{OP} , T_{STG})	-40° to +80°C
Soldering Temperature (2 mm from case bottom) (T_S) $t \leq 3$ s	230°C
Reverse Voltage (V_R)	32 V
Power Dissipation (P_{TOT}) $T_A=25^\circ\text{C}$	150 mW

Characteristics ($T_A=25^\circ\text{C}$, $\lambda=950$ nm)

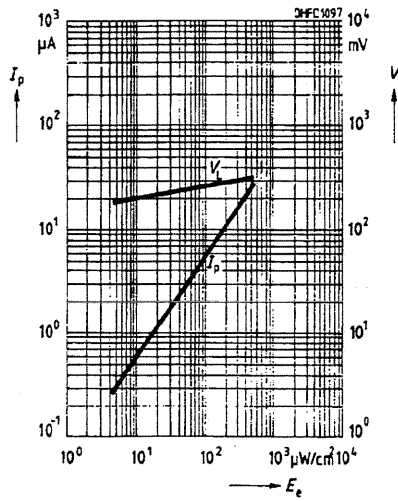
Parameter	Symbol	Value	Unit
Photosensitivity ($V_R=5$ V, $E_E=1$ mW/cm ²)	S	50 (≥ 30)	μA
Maximum Photosensitivity Wavelength	$\lambda_{S_{MAX}}$	950	nm
Photosensitivity Spectral Range ($S=10\%$ of S_{MAX})	λ	780 to 1100	nm
Radiant Sensitive Area	A	7.00	mm ²
Radiant Sensitive Area Dimensions	L x W	2.65 x 2.65	mm
Distance, Chip Surface to Case Surface	H	0.5	mm
Half Angle	ϕ	± 60	Deg.
Dark Current ($V_R=10$ V)	I_R	2 (≤ 30)	nA
Spectral Photosensitivity	S_λ	0.59	$\frac{\text{AW}}{\text{electrons}}$
Quantum Yield	η	0.77	photon
Open Circuit Voltage ($E_E=0.5$ mW/cm ²)	V_O	330 (≥ 275)	mV
Short Circuit Current ($E_E=0.5$ mW/cm ²)	I_{SC}	25	μA
Rise and Fall Time of Photocurrent 10% to 90%, and 90% to 10% of Final Value, ($R_L=50$ Ω , $V_R=5$ V, $\lambda=850$ nm, $I_P=800$ μA)	t_R , t_F	20	ns
Forward Voltage ($I_F=100$ mA, $E=0$, $T_A=25^\circ\text{C}$)	V_F	1.3	V
Capacitance ($V_R=0$ V, $E=0$, $f=1$ MHz)	C_0	72	pF
Temperature Coefficient V_O	TC_V	-2.6	mV/K
Temperature Coefficient I_{SC}	TC_I	0.18	%/K
Noise Equivalent Power ($V_R=10$ V)	NEP	4.3×10^{-14}	W/ $\sqrt{\text{Hz}}$
Detection Limit ($V_R=10$ V)	D^*	6.2×10^{12}	$\text{cm} \cdot \sqrt{\text{Hz}}/\text{W}$

Relative spectral sensitivity

$S_{REL}=f(\lambda)$

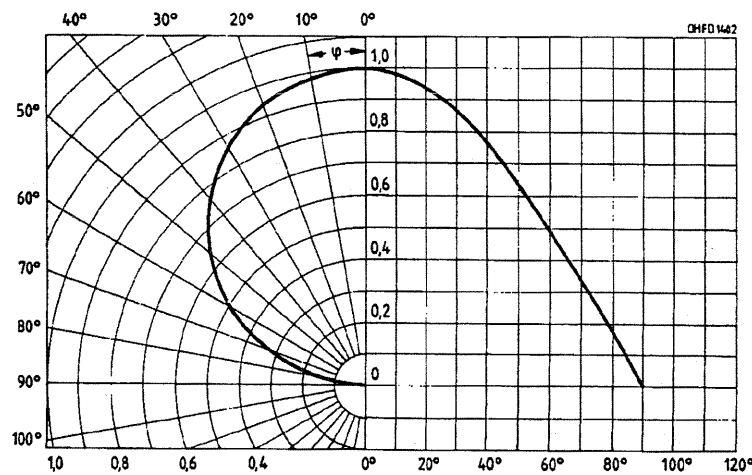


**Photocurrent $I_p=f(E_e)$
Open circuit voltage $V_O=f(E_e)$**

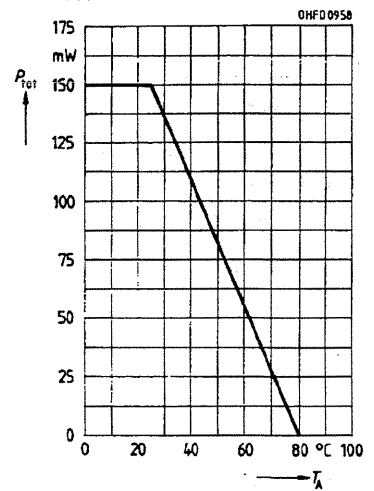


Directional characteristic

$S_{REL}=f(\varphi)$

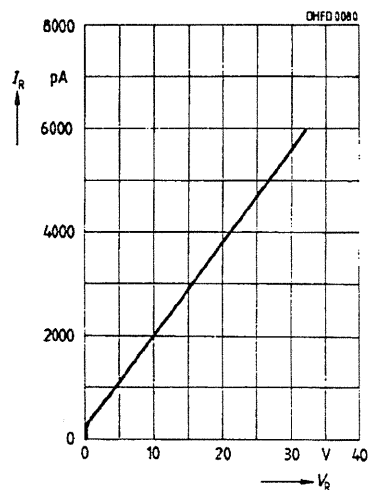


Power dissipation $P_{TOT}=f(T_A)$



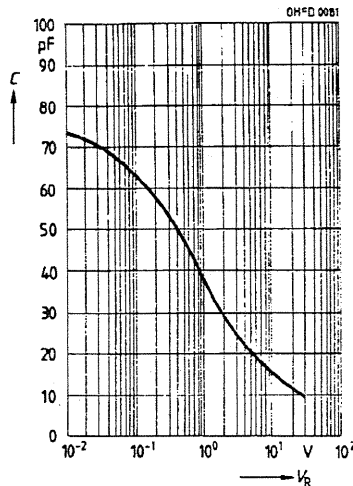
Dark current $I_R=f(V_R)$

$T_A=25^\circ\text{C}, E=0$



Capacitance $C=f(V_R)$

$f=1\text{ MHz}, E=0$



Dark current $I_R=f(T_A)$

$V_R=10, E=0$

