Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Sensor

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Light current	Kodak Grey Card 20 % diffuse reflection distance: 1 cm I_{FS} = 10 mA	I_{CA}		1.2		µA
Optical crosstalk sensing path	no reflective medium I_{FS} = 10 mA	I_{CA}		0.9		µA
Compensation current	I_{FC} = 2 mA	I_{CR}		5		µA

IR Emitter LEDS (Transmitter)

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_{FS} = 10 mA t_p = 20 ms	V_{FS}		1.3		V
Reverse voltage	I_{RS} = 10 µA	V_{RS}	5			V
Junction capacitance		C_{jS}		50		pF
Radiant intensity	I_{FS} = 10 mA t_p = 20 ms	I_e		2	22	mW/sr
Angle of half intensity		φ_S		± 20		deg
Peak wavelength	I_{FS} = 10 mA	λ_{ps}	875	885		nm
Spectral bandwidth	I_{FS} = 10 mA	$\Delta\lambda_s$		42		nm
Virtual source diameter	DIN EN ISO 1146/1:2005	Ø		1.4		mm

IR Emitter LEDC (Compensation)

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_{FC} = 10 mA t_{pC} = 20 ms	V_{FC}		1.3		V
Reverse voltage	I_{RC} = 10 µA	V_{RC}	5			V
Junction capacitance		C_{jC}		50		pF
Peak wavelength	I_{FC} = 10 mA	λ_{pC}		885		nm
Spectral bandwidth	I_{FC} = 10 mA	$\Delta\lambda_C$		42		nm

Detector

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_{FD} = 50 mA	V_{FD}		1.0	1.3	V
Breakdown voltage	I_{RD} = 100 µA E = 0	$V_{(BR)}$	5			V
Reverse dark current	V_{RD} = 10 V, E = 0	I_{r0}		1	10	nA
Reverse light current	E_e = 1 mW/cm^2 λ = 870 nm V_{RD} = 5 V	I_{ra}		5.6		µA
Temp. coefficient of I_{ra}	V_{RD} = 5 V λ = 870 nm	TK_{Ira}		0.2		%/K
Angle of half sensitivity		φ_D		± 20		deg
Wavelength of peak sensitivity		λ_p		910		nm
Range of spectral bandwidth		$\lambda_{0.5}$		790...1020		nm

Typical Characteristics

T_{amb} = 25 °C unless otherwise specified

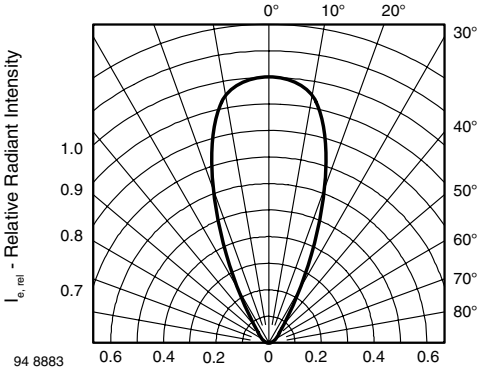

Figure 2. Relative Radiant Intensity vs. Angular Displacement

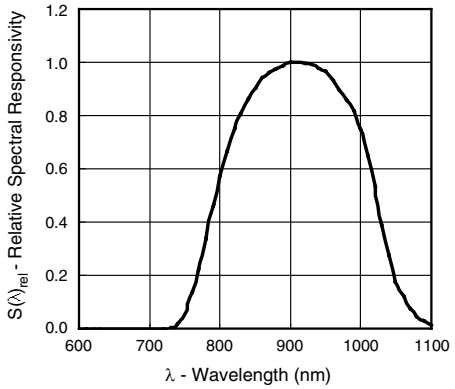

Figure 4. Relative Spectral Sensitivity vs. Wavelength

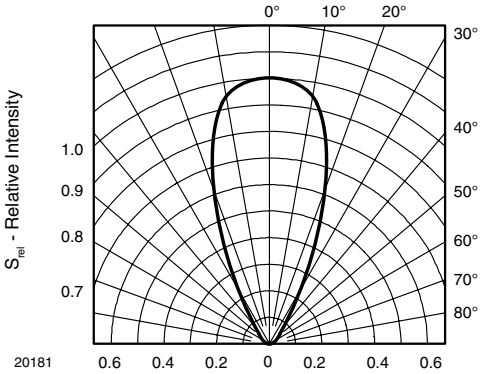

Figure 3. Relative Radiant Sensitivity vs. Angular Displacement

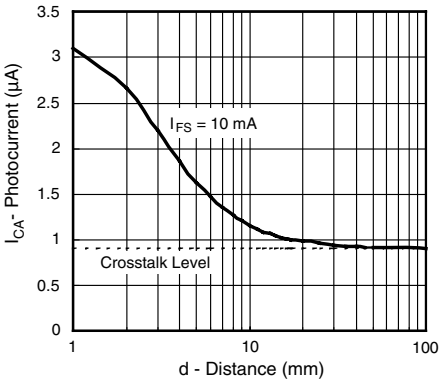

Figure 5. Photocurrent vs. Distance