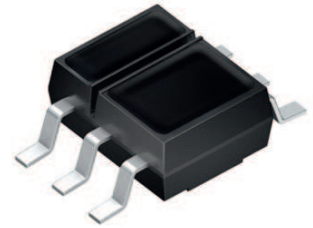


# Reflective Interrupter

## Version 1.5

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### SFH 9206



#### Features:

- 940nm emitter in combination with a silicon NPN phototransistor
- Optimal operating distance 1 mm to 5 mm
- Daylight cut-off filter
- Emitter and detector electrically isolated
- Soldering Methode: IR Reflow Soldering
- Product complies to MSL Level 4

#### Applications

- Position reporting
- End position switch
- Speed monitoring and regulating
- Motion transmitter

#### Ordering Information

Type:	Collector-emitter current $I_{PCE}$ [ $\mu$ A] <b>Kodak neutral white testcard with 90% reflection; <math>I_F = 10</math> mA, <math>V_{CE} = 5</math> V, <math>d = 1</math> mm</b>	Ordering Code
SFH 9206	160 ... 2000	Q65111A3179
SFH 9206-4	160 ... 320	-
SFH 9206-5/6	250 ... 800	Q65111A3177
SFH 9206-6/7	400 ... 1250	Q65111A3178
SFH 9206-8	1000 ... 2000	-

**Maximum Ratings** ( $T_A = 25\text{ °C}$ )

Parameter	Symbol	Values	Unit
<b>Emitter</b>			
Reverse voltage	$V_R$	5	V
Forward current	$I_F$	50	mA
Surge current ( $t_p \leq 10\ \mu\text{s}$ , $D=0$ )	$I_{FSM}$	0.7	A
Power consumption	$P_{tot}$	100	mW
Thermal resistance junction - ambient <sup>1) page 14</sup>	$R_{thJA}$	495	K / W

**Detector**

Collector-emitter voltage	$V_{CE}$	16	V
Collector-emitter voltage ( $t \leq 2\ \text{min}$ )	$V_{CE}$	30	V
Emitter-collector voltage	$V_{EC}$	7	V
Collector current	$I_C$	10	mA
Total Power dissipation	$P_{tot}$	100	mW
Thermal resistance junction - ambient <sup>1) page 14</sup>	$R_{thJA}$	495	K / W

**Interrupter**

Operating and storage temperature range	$T_{op}$ ; $T_{stg}$	-40 ... 100	°C
Ambient temperature range	$T_A$	-40 ... 100	°C
Total power dissipation	$P_{tot}$	150	mW
Electrostatic discharge	$V_{ESD}$	2	kV

**Characteristics** ( $T_A = 25\text{ °C}$ )

Parameter	Symbol	Values	Unit
<b>Emitter</b>			
Peak wavelength ( $I_F = 50\ \text{mA}$ , $t_p = 20\ \text{ms}$ )	(typ) $\lambda_{peak}$	950	nm
Forward voltage ( $I_F = 50\ \text{mA}$ , $t_p = 20\ \text{ms}$ )	(typ (max)) $V_F$	1.45 ( $\leq 1.8$ )	V
Reverse current ( $V_R = 5\ \text{V}$ )	$I_R$	not designed for reverse operation	$\mu\text{A}$

**Detector**