

**Absolute Maximum Ratings (Ta = 25°C)**

Parameter	Symbol	Rating	Unit
Supply Voltage	V <sub>CCMR</sub>	7	V
Input Voltage	V <sub>INMR</sub>	-0.3 to (V <sub>CC</sub> +0.3) or +7 whichever is less	V
Operating Temperature Range	T <sub>opr</sub>	-40 to +85	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +100	°C
Maximum Junction Temperature	T <sub>Jmax</sub>	100	°C

**Caution:** Operating the IC over the absolute maximum ratings may damage the IC. The damage can either be a short circuit between pins or an open circuit between pins and the internal circuitry. Therefore, it is important to consider circuit protection measures, such as adding a fuse, in case the IC is operated over the absolute maximum ratings.

**Thermal Resistance** <sup>(Note 1)</sup>

Parameter	Symbol	Thermal Resistance (Typ)		Unit
		1s <sup>(Note 3)</sup>	2s2p <sup>(Note 4)</sup>	
WSOF5				
Junction to Ambient	$\theta_{JA}$	466.9	131.0	°C/W
Junction to Top Characterization Parameter <sup>(Note 2)</sup>	$\Psi_{JT}$	163	49	°C/W

(Note 1)Based on JESD51-2A(Still-Air)

(Note 2)The thermal characterization parameter to report the difference between junction temperature and the temperature at the top center of the outside surface of the component package.

(Note 3)Using a PCB board based on JESD51-3.

Layer Number of Measurement Board	Material	Board Size
Single	FR-4	114.3mm x 76.2mm x 1.57mmt
Top		
Copper Pattern	Thickness	
Footprints and Traces	70μm	

(Note 4)Using a PCB board based on JESD51-7.

Layer Number of Measurement Board	Material	Board Size			
4 Layers	FR-4	114.3mm x 76.2mm x 1.6mmt			
Top		2 Internal Layers		Bottom	
Copper Pattern	Thickness	Copper Pattern	Thickness	Copper Pattern	Thickness
Footprints and Traces	70μm	74.2mm x 74.2mm	35μm	74.2mm x 74.2mm	70μm

**Recommended Operating Conditions (Ta = -40°C to +85°C)**

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V <sub>CC</sub>	2.3	3.0	5.5	V
Input Voltage	V <sub>IN</sub>	0	-	5.5	V

Electrical Characteristics (Unless otherwise specified VCC=3.0V, Ta=25°C, EN=VCC)<sup>(Note)</sup>

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Supply Current1	I <sub>CC1</sub>	-	75	105	μA	Ev=1000lx
Supply Current2	I <sub>CC2</sub>	-	28	42	μA	Ev=0lx
Supply Current3	I <sub>CC3</sub>	-	0.1	0.4	μA	EN=0V, No Input Light
IOUT Output Current1	I <sub>OUT1</sub>	-	-	0.5	μA	Ev=0lx
IOUT Output Current2	I <sub>OUT2</sub>	17	20	23	μA	Ev=100lx
Saturated Output Voltage	V <sub>OMAX</sub>	2.6	2.9	3.0	V	Ev=100lx, R <sub>L</sub> =220kΩ
EN Input 'L' Voltage	V <sub>IL</sub>	-	-	0.4	V	
EN Input 'H' Voltage 1	V <sub>IH1</sub>	1.4	-	-	V	2.3V ≤ VCC ≤ 3.6V
EN Input 'H' Voltage 2	V <sub>IH2</sub>	2.0	-	-	V	3.6V < VCC ≤ 5.5V
Wake-up Time	t <sub>WU</sub>	-	65	130	μs	Shutdown to Operating mode Ev=100lx

(Note) White LED is used as optical source.