

# Infrared LED

## L8245

Peak emission wavelength: 1.65  $\mu\text{m}$

L8245 is a long-wavelength infrared LED using an InGaAs chip. The peak emission occurs at a wavelength near the methane gas absorption band, making L8245 ideal for a light source for methane gas detection.

### Features

- Peak emission wavelength: 1.65  $\mu\text{m}$
- High radiant output

### Applications

- Light source for methane gas detection

#### ■ Absolute maximum ratings (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	VR Max.		1	V
Forward current	IF		80	mA
Forward current decrease rate	-		1.1	mA/°C
Pulse forward current	IFP	Pulse width=10 $\mu\text{s}$ Duty ratio=1 %	1.0	A
Pulse forward current decrease rate	-		13	mA/°C
Power dissipation	P		150	mW
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-40 to +100 *1	°C

\*1: Guaranteed to resist temperature cycle test of up to 5 cycles.

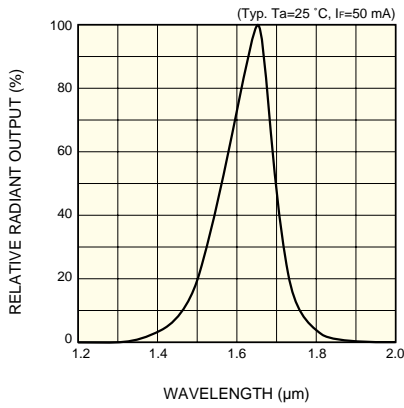
#### ■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	$\lambda_p$	IF=50 mA	1.6	1.65	1.7	$\mu\text{m}$
Spectral half width	$\Delta\lambda$	IF=50 mA	-	130	-	nm
Radiant flux	$\phi_e$	IF=50 mA	0.5	0.8	-	mW
Forward voltage	VF	IF=50 mA	-	1.0	1.5	V
Reverse current	IR	VR=1 V	-	-	10	$\mu\text{A}$
Cut-off frequency	fc	IF=50 mA $\pm$ 10 mAp-p, *2	1	3	-	MHz

\*2: Frequency at which the optical output decreases by -3 dB versus a reference output level at 100 kHz.

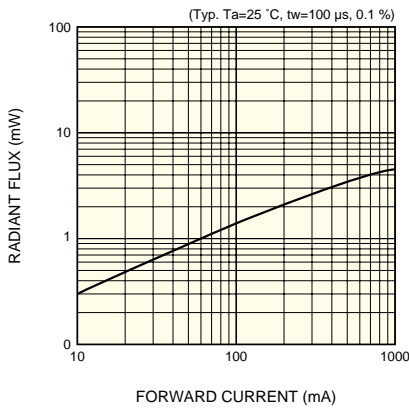
L8245 may be damaged or performance may deteriorate due to static electricity, so use caution when handling.

### ■ Emission spectrum



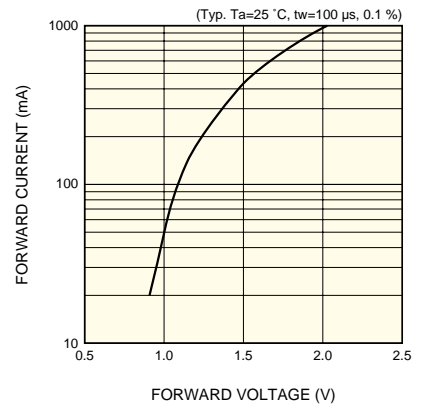
KLEDB0222EA

### ■ Radiant flux vs. forward current



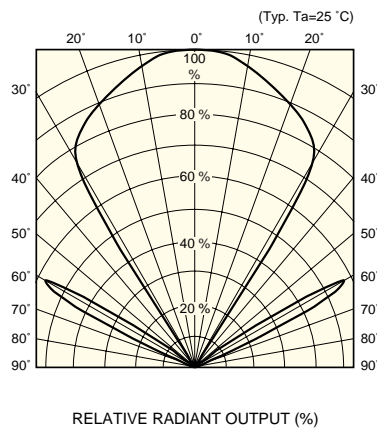
KLEDB0298EA

### ■ Forward current vs. forward voltage



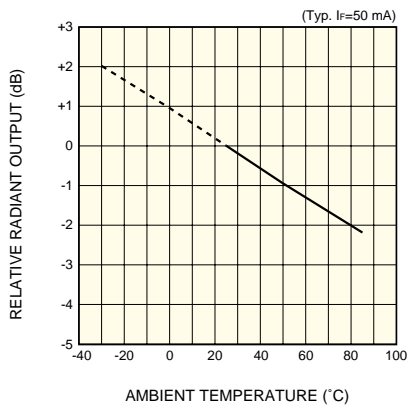
KLEDB0299EA

### ■ Directivity



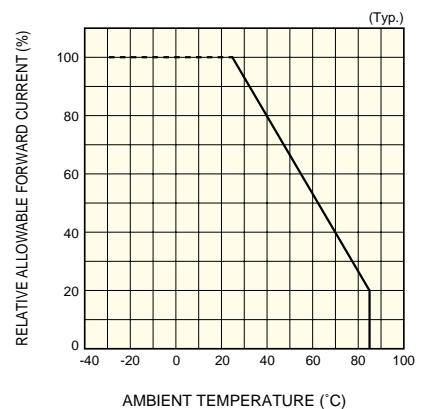
KLEDB0223EA

### ■ Radiant output vs. ambient temperature



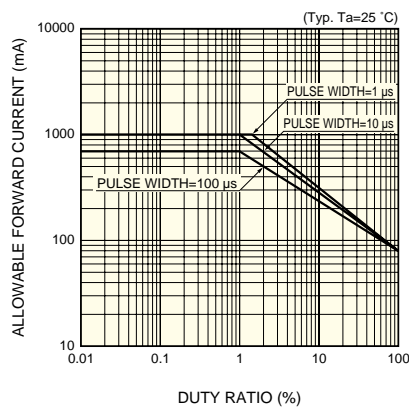
KLEDB0224EA

### ■ Allowable forward current vs. ambient temperature



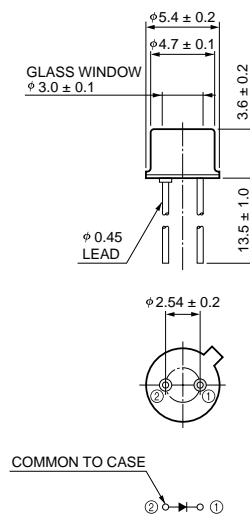
KLEDB0207EB

### ■ Allowable forward current vs. duty ratio



KLEDB0225EA

### ■ Dimensional outline (unit: mm)



KLEDA0071EA

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