GL100MNxMP Series

Compact, Surface Mount Type Infrared Emitting Diode

■ Features

1. Compact and thin package
2. Surface mount type
3. 2-way mounting;top view/side view
4. Reflow soldering
5. High output type:**GL100MN1MP**
6. General purpose type:**GL100MN0MP**
   Pair use with **PT100MC0MP**/**PT100MF0MP** is recommended

■ Applications

1. Touch panel for ATM
2. Touch panel for Car navigation system
3. Touch panel for FA equipment

■ Absolute Maximum Ratings

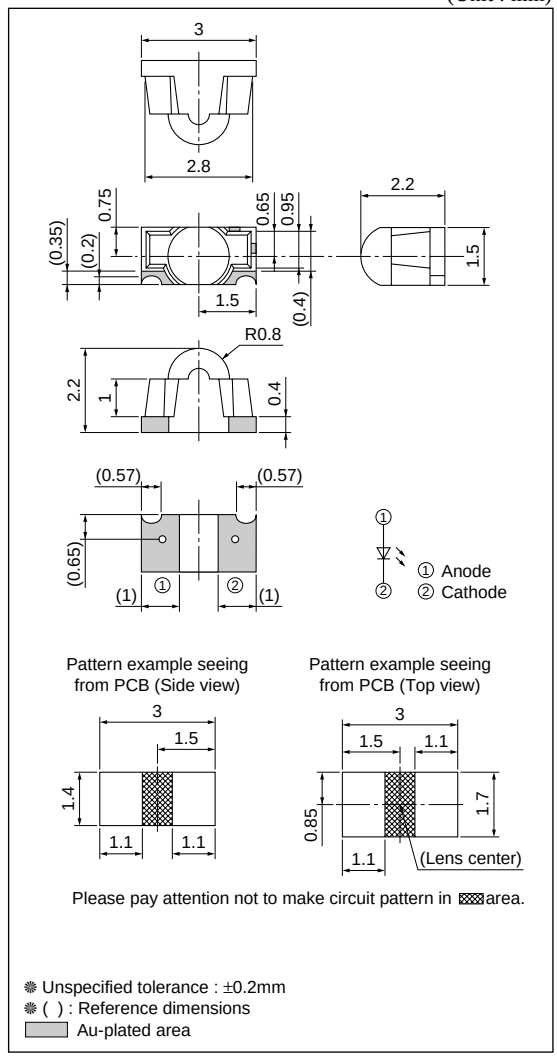
(T_a=25°C)

Parameter	Symbol	Rating	Unit
Forward current	I_F	50	mA
*1 Peak forward current	I_{FM}	0.5	A
Reverse voltage	V_R	6	V
Power dissipation	P	75	mW
Operating temperature	T_{opr}	−30 to +85	˚C
Storage temperature	T_{stg}	−40 to +95	˚C
*2 Soldering temperature	T_{sol}	240	˚C

*1 Pulse width 100μs, duty 0.01
*2 Max. 10s

■ Outline Dimensions

(Unit : mm)



■ Electro-optical Characteristics

(T_a=25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	**GL100MN0MP**	V_F	I_F=20mA	–	1.2	1.4	V
	GL100MN1MP	V_F	I_F=20mA	–	1.2	1.5	V
Peak forward voltage		V_{FM}	I_{FM}=0.5A	–	3.0	4.0	V
Reverse current		I_R	V_R=3V	–	–	10	μA
Radiant flux	**GL100MN0MP**	Φ_e	I_F=20mA	1.0	–	3.0	mW
	GL100MN1MP	Φ_e	I_F=20mA	2.0	–	6.0	mW
Peak emission wavelength		λ_p	I_F=5mA	–	940	–	nm
Half intensity wave length		$\Delta\lambda$	I_F=5mA	–	45	–	nm
Terminal capacitance		C_t	V_R=0, f=1MHz	–	50	–	pF
Response frequency		f_c	–	–	300	–	kHz
Half intensity angle		$\Delta\theta$	–	–	±10	–	˚

Fig.1 Forward Current vs. Ambient Temperature

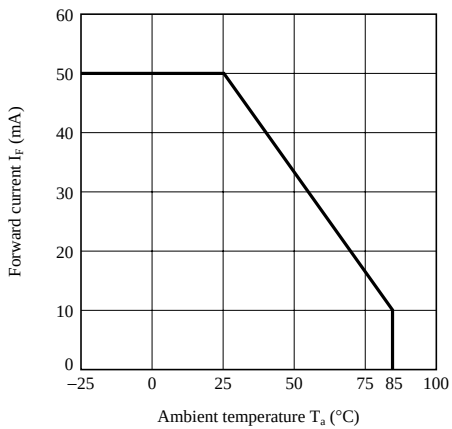


Fig.2 Peak Forward Current vs. Duty Ratio

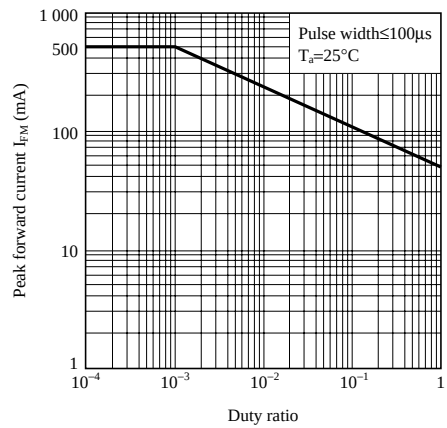


Fig.3 Spectral Distribution

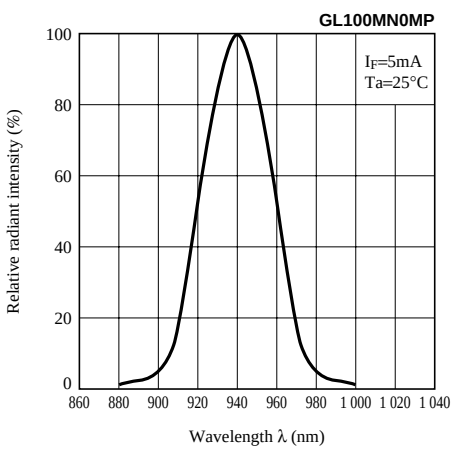


Fig.4 Spectral Distribution

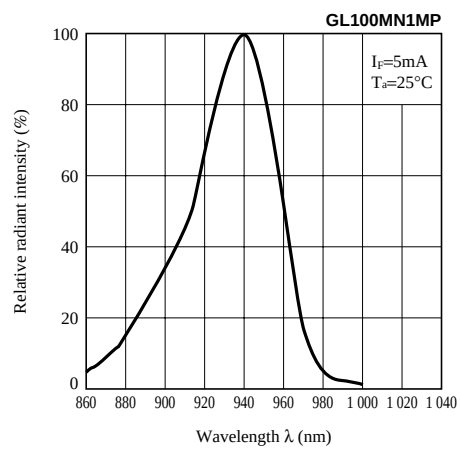


Fig.5 Peak Emission Wavelength vs. Ambient Temperature

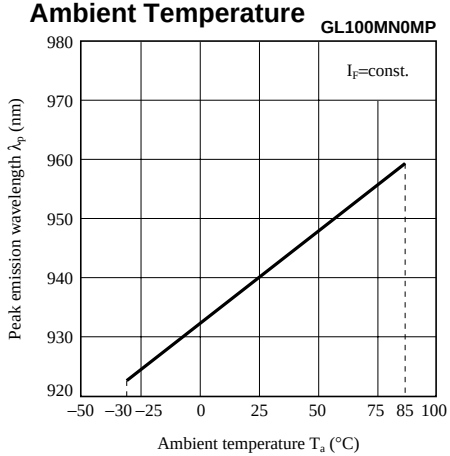


Fig.6 Peak Emission Wavelength vs. Ambient Temperature

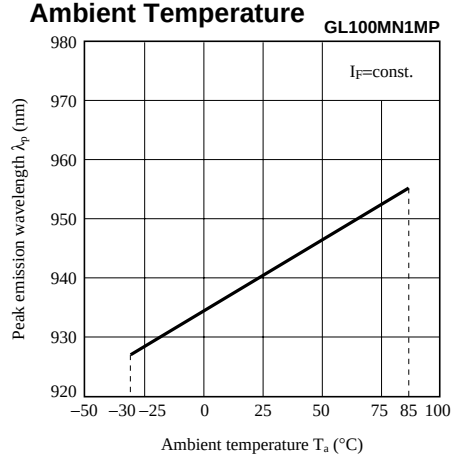


Fig.7 Forward Current vs. Forward Voltage

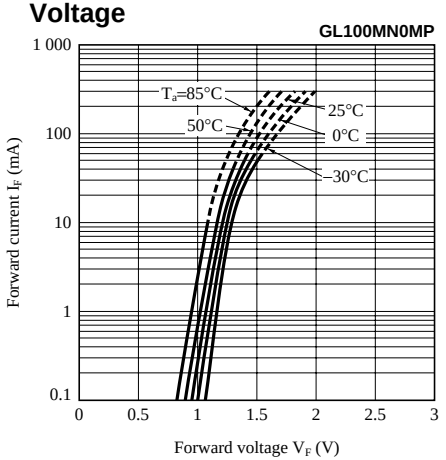


Fig.8 Forward Current vs. Forward Voltage

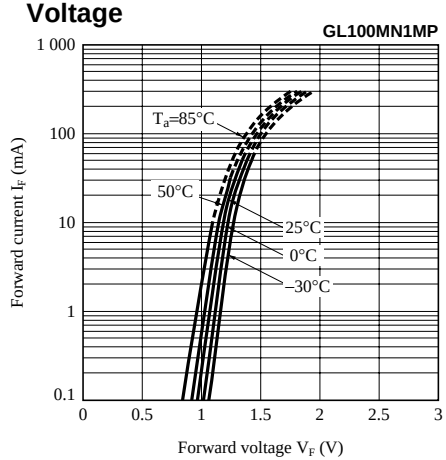


Fig.9 Relative Radiant Flux vs. Ambient Temperature

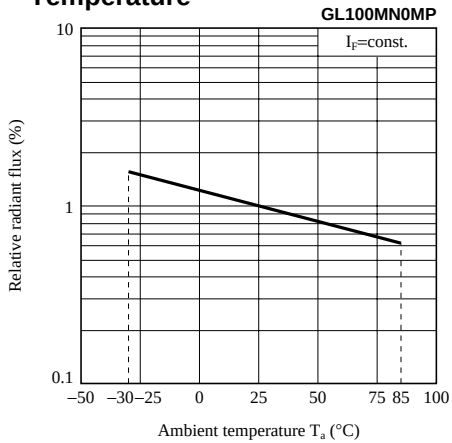


Fig.10 Relative Radiant Flux vs. Ambient Temperature

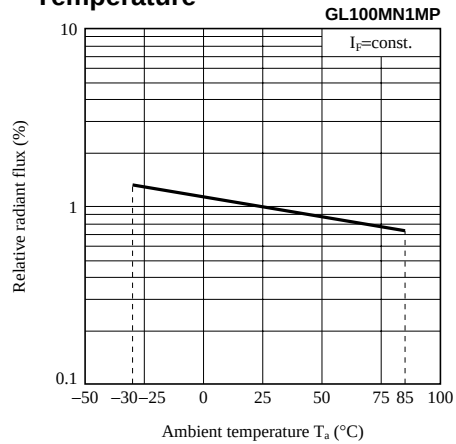


Fig.11 Radiant Flux vs. Forward Current

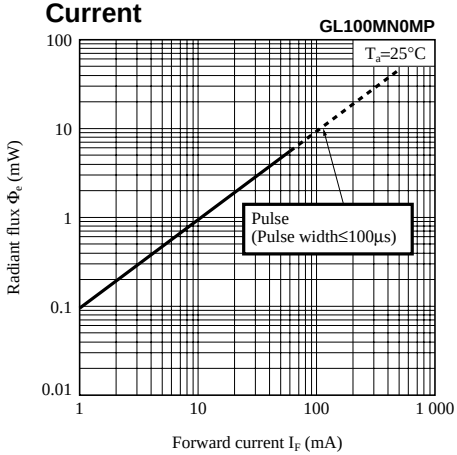


Fig.12 Radiant Flux vs. Forward Current

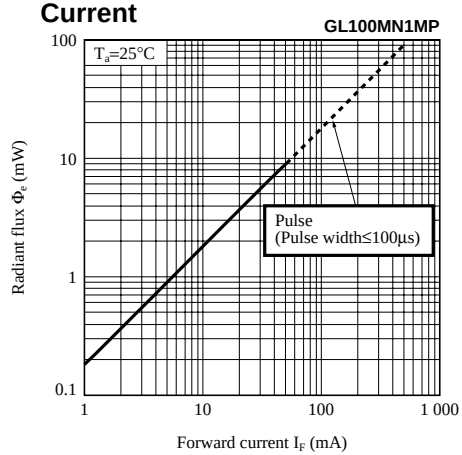


Fig.13 Relative Output vs. Distance To Detector

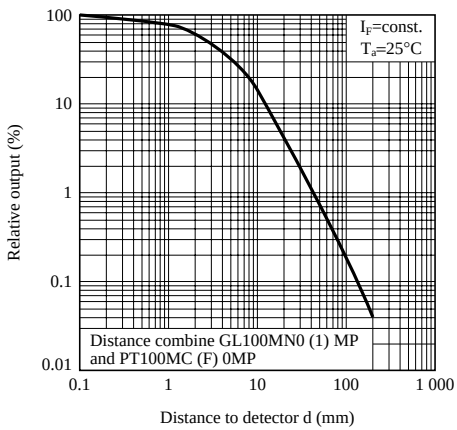


Fig.14 Radiation Diagram (Typical Value)

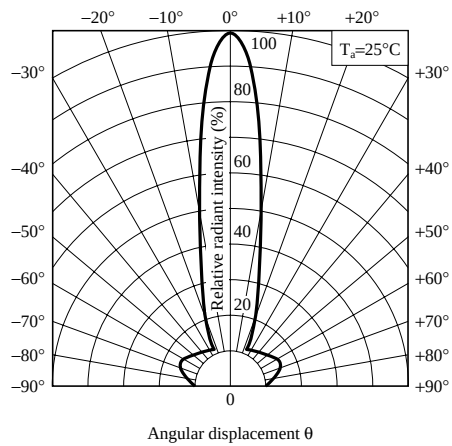
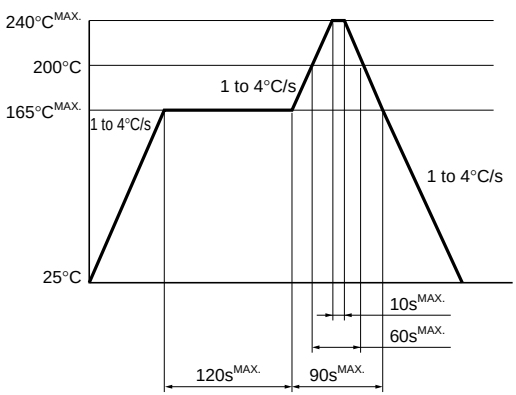


Fig.15 Reflow Soldering

Only one time soldering is recommended within the temperature profile shown below.



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  --- Office automation equipment
  --- Telecommunication equipment [terminal]
  --- Test and measurement equipment
  --- Industrial control
  --- Audio visual equipment
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  --- Gas leakage sensor breakers
  --- Alarm equipment
  --- Various safety devices, etc.

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