ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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L940-_ _V Infrared LED Lamp

This series of L940-_ _V is a GaAs LED mounted on a lead frame and encapsulated in various types of epoxy lens which offer different design settings.
On forward bias, it emits a high power radiation of typical 40mW with a peak wavelength at 940nm.

1) Specifications

(1) Chip material	GaAs	(4) Package	Clear epoxy resin
(2) Chip Size	0.4mm*0.4mm	(5) Lead frame	Soldered
(3) Peak wavelength	940nm		

2) Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	PD	140	mW	Ta=25°C
Forward Current	IF	100	mA	Ta=25°C
Pulse Forward Current	IFP	1000	mA	Ta=25°C
Reverse Voltage	VR	5	V	Ta=25°C
Operating Temperature	TOPR	-30 ~ +85	°C	Ta=25°C
Storage Temperature	TSTG	-30 ~ +100	°C	
Soldering Temperature	TSOL	260	°C	

3) Electro-Optical Characteristics [Ta=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA DC		1.30	1.45	V
		IF=100mA, tp=20ms		1.40	1.65	
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power	PO	IF=50mA DC	16.0	20.0		mW
		IF=100mA, tp=20ms		40.0		
Peak Wavelength	λP	IF=50mA DC		940		nm
Half Width	Δλ	IF=50mA DC		50		nm
Rise Time	tr	IF=50mA DC		1000		ns
Fall Time	tf	IF=50mA DC		500		ns

4) Characteristics of Radiant Intensity [Ta=25°C]

Type	Viewing Half Angle	Radiant Intensity IF=100mA,tp=20ms unit: mW/sr			Outer Dimension	
		Minimum	Typical	Maximum	Dimension	Figure
L940-01V	±10°		130		Φ5	1
L940-02V	±5°		160		Φ5	2
L940-03V	±15°		110		Φ5	3
L940-04V	±20°		50		Φ5	4
L940-05V	±40°		14		Φ5	5
L940-06V	±7°		180		Φ5	6
L940-09V	±25°(Long)		80		Φ5	7
	±15°(Short)				Oval	
L940-33V	±15°		50		Φ3	9
L940-36V	±30°		26		Φ3	10

‡ Radiant Intensity is measured by Tektronix J-16.
‡ Total Radiated Power is measured by Photodyne #500.

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Reverse Current	IR	VR=5V			10	uA
Total Radiated Power	PO	IF=50mA DC	16.0	20.0		mW
		IF=100mA, tp=20ms		40.0		
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Half Width	Δλ	IF=50mA DC		50		nm
Rise Time	tr	IF=50mA DC		1000		ns
Fall Time	tf	IF=50mA DC		500		ns

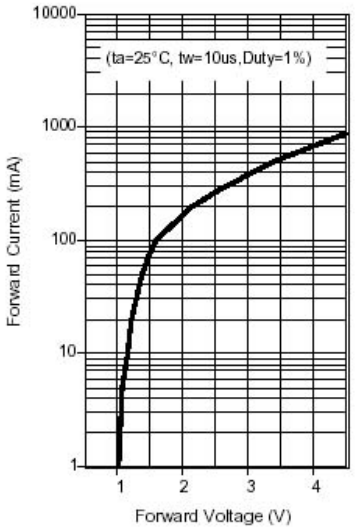
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L940-03V	±15°		110		Φ5	3
L940-04V	±20°		50		Φ5	4
L940-05V	±40°		14		Φ5	5
L940-06V	±7°		180		Φ5	6
L940-09V	±25°(Long)		80		Φ5	7
	±15°(Short)				Oval	
L940-33V	±15°		50		Φ3	9
L940-36V	±30°		26		Φ3	10

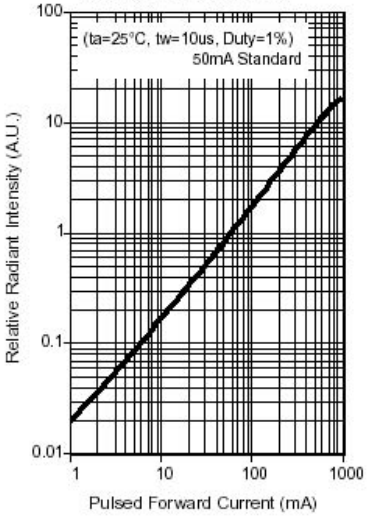
‡ Radiant Intensity is measured by Tektronix J-16.
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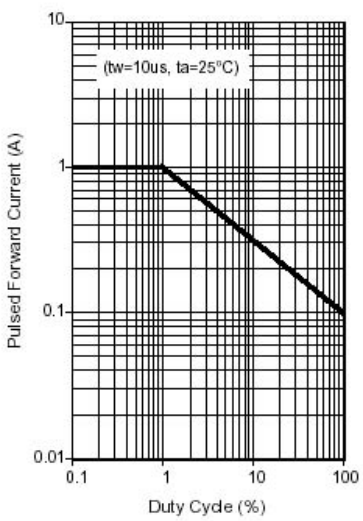
Forward Current - Forward Voltage



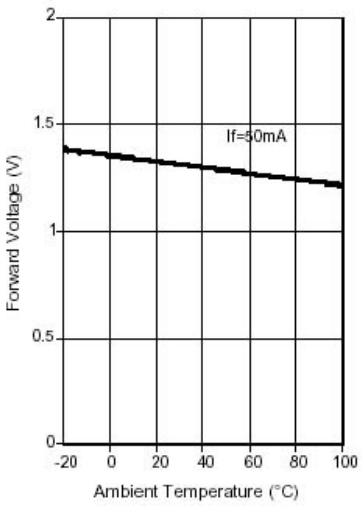
Relative Radiant Intensity - Pulsed Forward Current



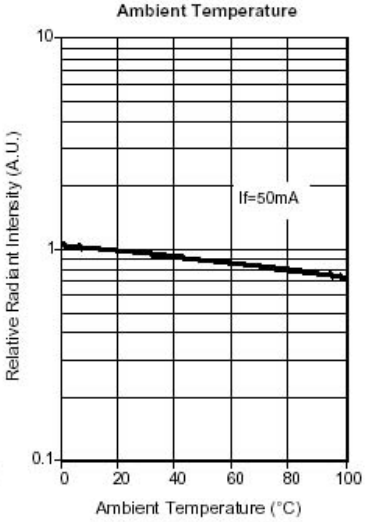
Pulsed Forward Current - Duty Cycle



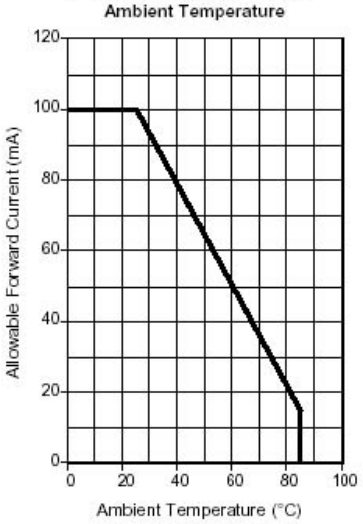
Forward Voltage - Ambient Temperature



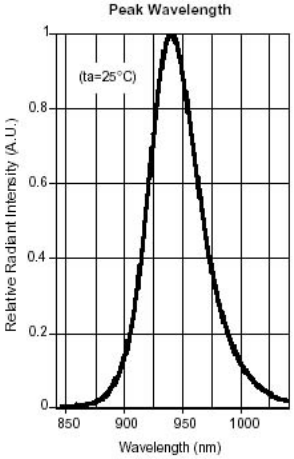
Relative Radiant Intensity - Ambient Temperature



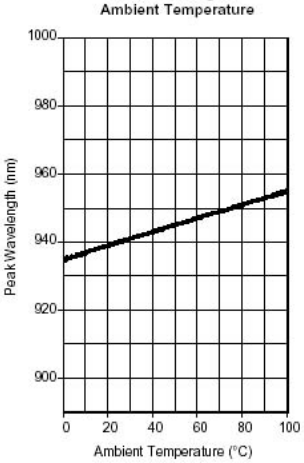
Allowable Forward Current - Ambient Temperature



Peak Wavelength



Peak Wavelength - Ambient Temperature



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Outer Dimension of LED Lamp

Figure-1 ϕ5Mold(Type01)

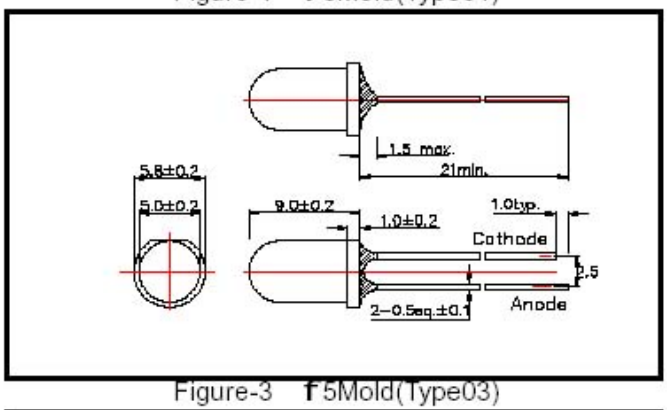


Figure-2 ϕ5Mold(Type02)

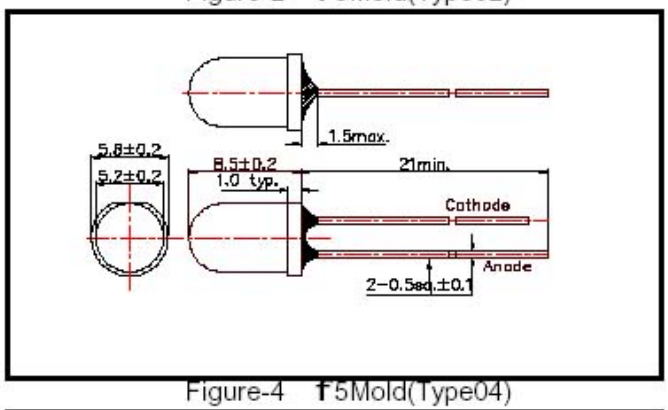


Figure-3 ϕ5Mold(Type03)

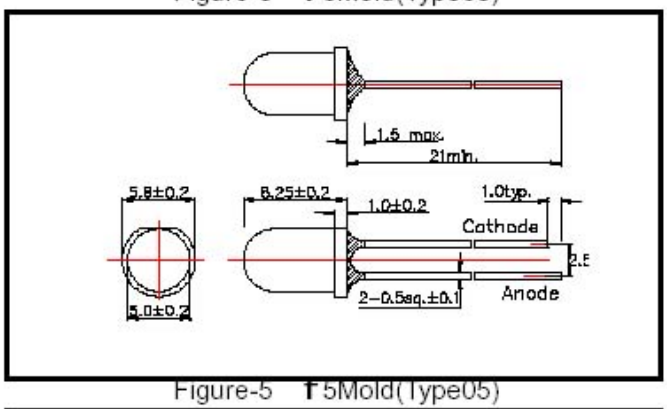


Figure-4 ϕ5Mold(Type04)

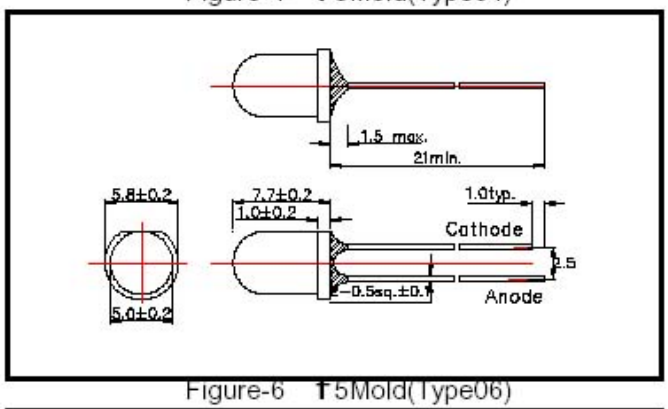


Figure-5 ϕ5Mold(Type05)

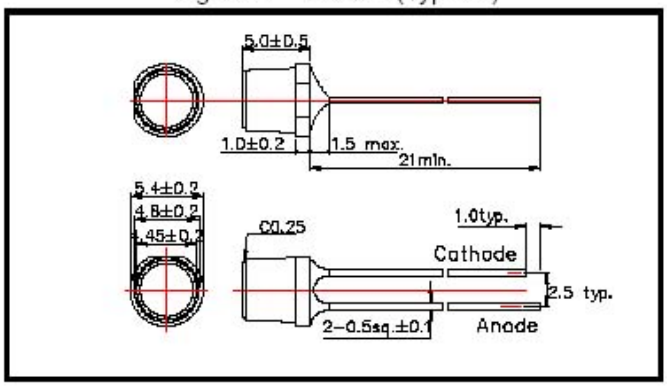
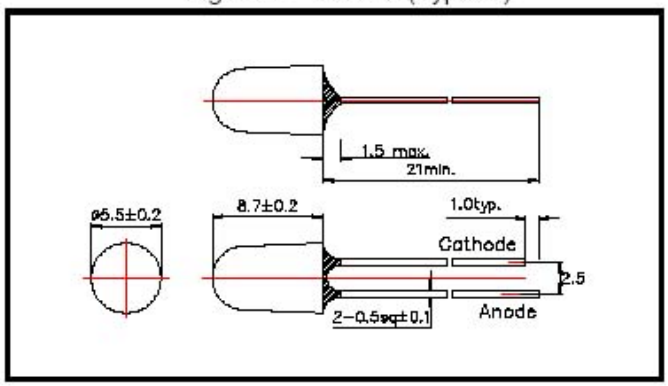


Figure-6 ϕ5Mold(Type06)



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Figure-7 f5Mold(Type09)

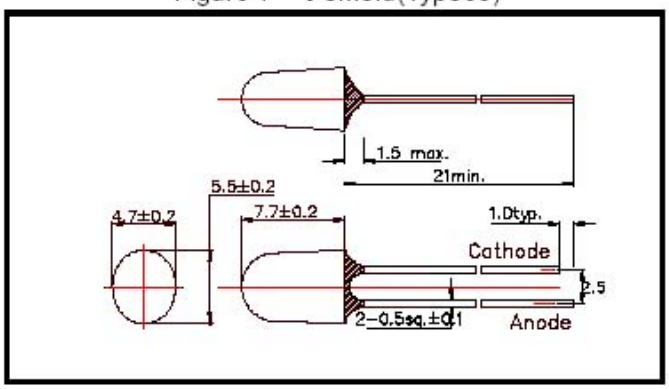


Figure-8 f5Mold(Type10)

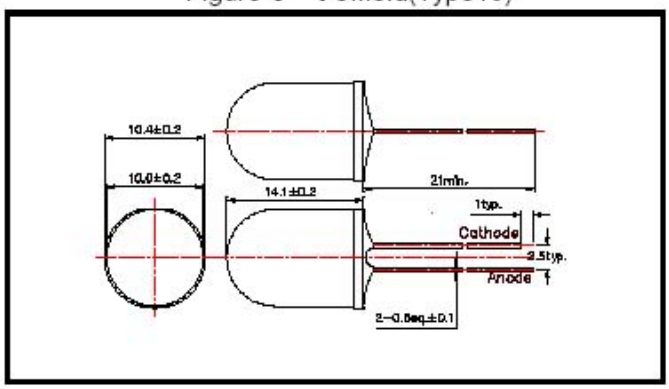


Figure-9 f3Mold(Type33)

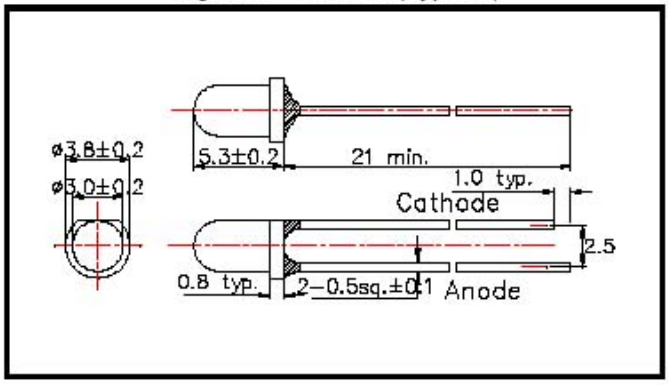
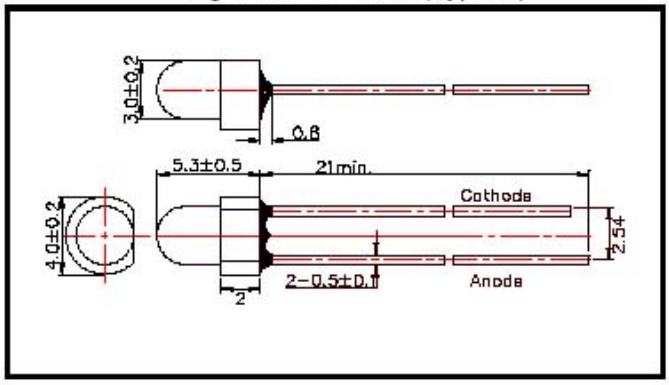
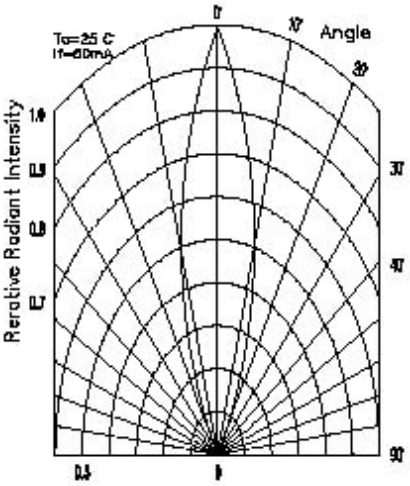


Figure-10 f3Mold(Type36)

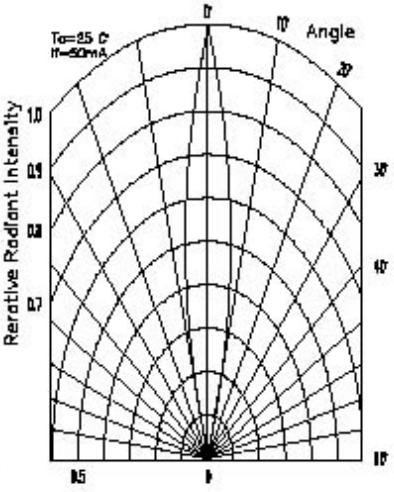


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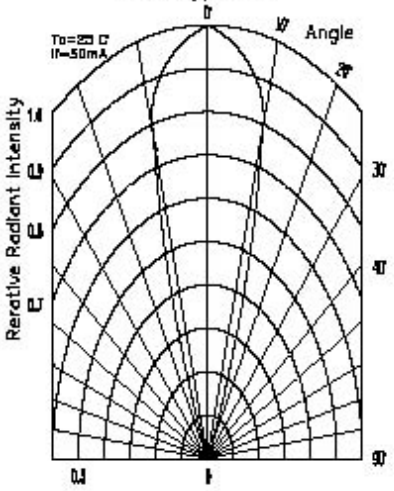
Radiation Pattern
Mold type 01



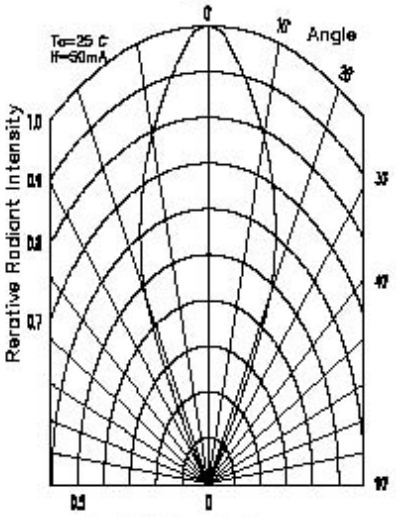
Radiation Pattern
Mold type 02



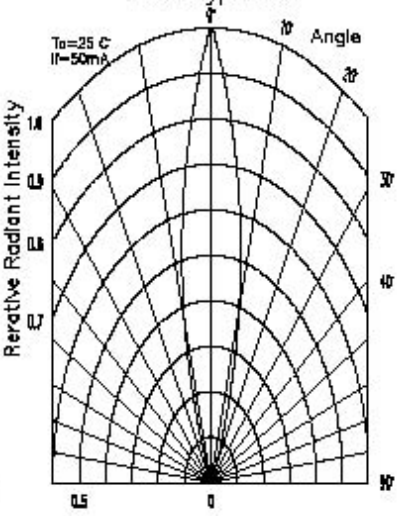
Radiation Pattern
Mold type 03



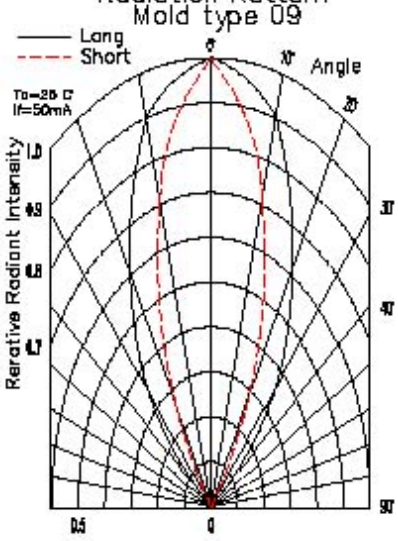
Radiation Pattern
Mold type 04



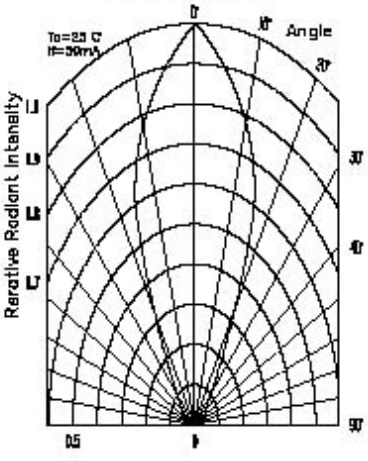
Radiation Pattern
Mold type 06



Radiation Rattern
Mold type 09



Radiation Pattern
Mold type 33



Radiation Pattern
Mold type 36

