

φ ENS? CACHAN φ ENSET C 8

LED Incolore

TENTATIVE SPECIFICATION

NEC
ELECTRON DEVICE

LIGHT EMITTING DIODES

SR503D, SR503C, SR503W

C. C. I.

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261.55.49

GaP LIGHT EMITTING DIODE

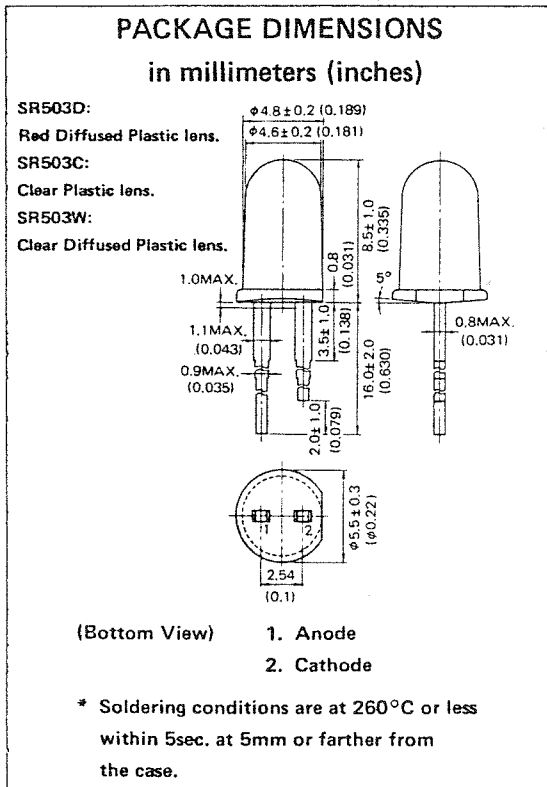
Red

—NEPOC SERIES—

TELEX 240835 F

DESCRIPTION

The SR503D, SR503C and SR503W are GaP (Gallium Phosphide) Light Emitting Diodes which are mounted on the lead frames and molded in red diffused, clear and clear diffused plastic respectively. They are ideally suited for front panel indicator applications.



FEATURES

- Long life — solid state reliability.
- Low cost.
- High intensity with low current.
- Versatile mounting on PC board or panel.
- Compatible with Integrated Circuits.
- Fast switching time.

APPLICATIONS

- Visual displays.
- Guard system.
- Radio, Stereo equipment readout.
- Measuring instrument, terminal.
- Optical switching light source.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation (Ta=25°C)	P	80	mW
Maximum Forward Current (Ta=25°C)	I _F	30	mA
Maximum Reverse Voltage (Ta=25°C)	V _R	5	V
Maximum Temperatures			
Junction Temperature	T _j	80	°C
Storage Temperature	T _{stg}	-30 to +80 °C	

ELECTRO-OPTICAL CHARACTERISTICS (Ta = 25°C)

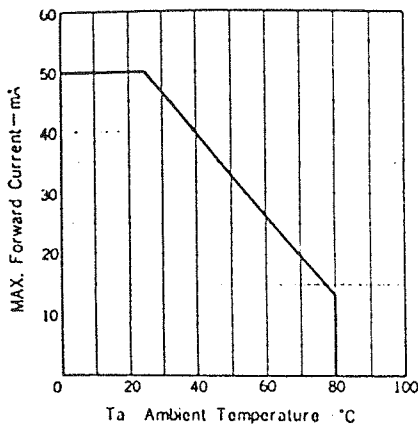
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Forward Voltage	V _F		2.0	2.2	V	I _F = 10mA
Reverse Current	I _R		0.01	50	μA	V _R = 3.0V
Capacitance	C _t		70		pF	V = 0, f = 1.0MHz
Peak Emission Wavelength	λ _{peak}		700		nm	I _F = 10 mA
Spectral Line Half Width	Δλ		100		nm	I _F = 10mA
Luminous Intensity	I _v	0.5	1.3		mcd	I _F = 10mA

Subject to change without any notice.

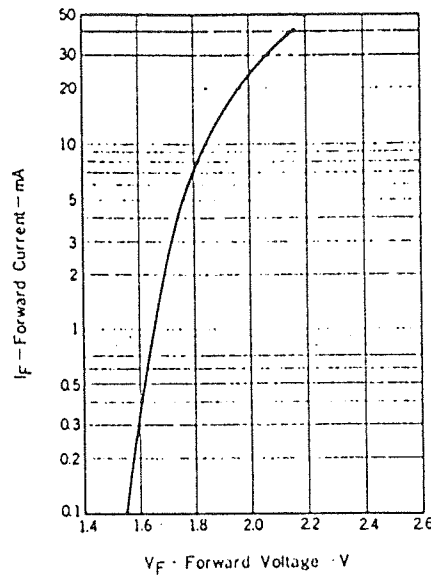
Nippon Electric Co., Ltd.

TYPICAL CHARACTERISTICS (Ta = 25 °C)

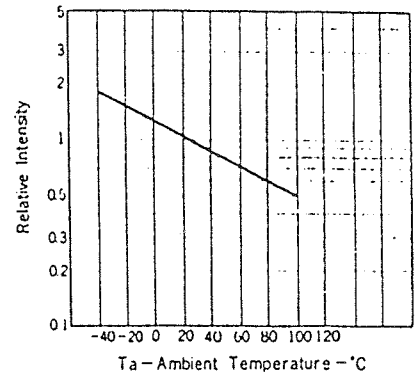
MAX. FORWARD CURRENT vs. AMBIENT TEMPERATURE



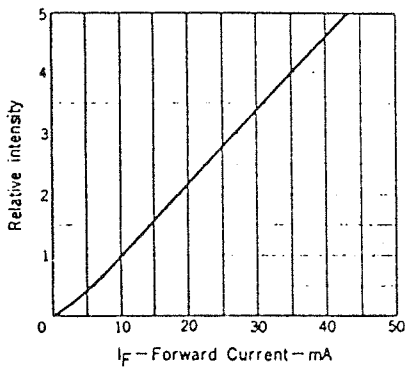
FORWARD CURRENT vs. FORWARD VOLTAGE



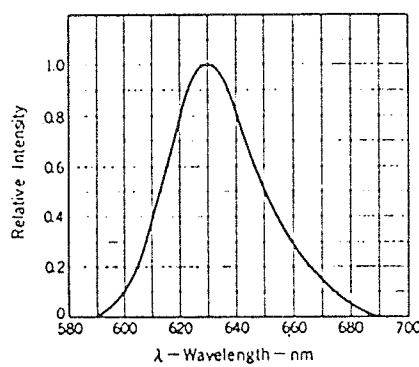
RELATIVE INTENSITY vs. AMBIENT TEMPERATURE



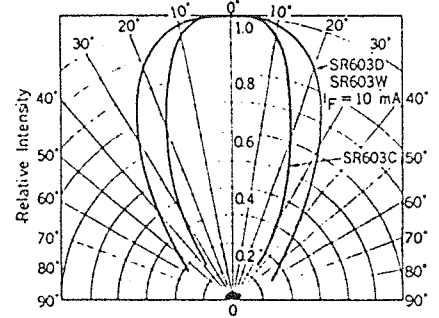
RELATIVE INTENSITY vs. FORWARD CURRENT



SPECTRAL DISTRIBUTION



SPATIAL DISTRIBUTION



HANDLING PRECAUTIONS:

1. The full resin-molded LED lamps have generally a little less mechanical and thermal strength than other resin-molded semiconductor devices as they have less additives. Therefore please note on the following points.
 - (a) Soldering of leads should be made at the point 5 mm or more from the root of the leads at 260 °C and within 5 s.
 - (b) If the temperature of the molded portion increases in addition to the residual stress between the leads, the possibility that open or short circuit occurs due to the deformation or destruction of the resin will increase.
2. On cleaning the device:
 - (a) Cleaning with unsuitable solvent may impair the resin of the package and the following solvents should be used at the temperature of less than 45 °C and for less than 3 minutes of immersion time.
 - Freon TE, Freon TF, Ethanol, Methanol
 - Difron-solvent, Isopropyl-alcohol
 - (b) Ultrasonic cleaning will add some stress on devices. The degree of the stress differs depending on the oscillation output power, the size of the PCB and the mounting methods of the devices, therefore it should be confirmed by making an experiment at actual conditions that the cleaning does not have any problem on the devices.

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φ ENS CACHAN LIGHT EMITTING DIODES SR603D, SR603C, SR603W

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GaAsP(N) HIGH INTENSITY LED

Red

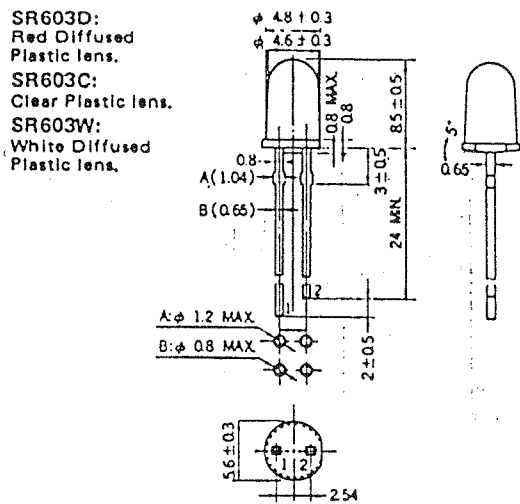
ÉCOLE NORMALE SUPÉRIEURE
DE CACHAN
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94208 CACHAN CEDEX
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NEPOC SERIES.

261.55.49
TELEX 240835 F.

DESCRIPTION

The SR603D, SR603C and SR603W are full resin-molded LED lamps which emit brilliant and uniform red light proportional with the forward current (I_F). They are especially suitable for such electronic equipments as for audio uses which require bright, vivid displays.

PACKAGE DIMENSIONS
in millimeters



SR603D:
Red Diffused
Plastic lens.
SR603C:
Clear Plastic lens.
SR603W:
White Diffused
Plastic lens.

1. Anode
2. Cathode

FEATURES

- Low cost.
- High intensity.
- Compatible with Integrated Circuits.
- Long lead.
- Wide view angle.
- Bright red

APPLICATIONS

- Visual displays.
- Guard system.
- Radio, Stereo equipment readout.
- Measuring instrument, terminal.
- Optical switching light source.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation ($T_a=25^\circ\text{C}$)	P	100	mW
Maximum Forward Current ($T_a=25^\circ\text{C}$)	I_F	50	mA
Maximum Reverse Voltage ($T_a=25^\circ\text{C}$)	V_R	5	V
Maximum Temperatures			
Junction Temperature	T_j	100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +100	$^\circ\text{C}$

ELECTRO-OPTICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Forward Voltage	V_F		2.0	2.4	V	$I_F = 10\text{ mA}$
Reverse Current	I_R		0.01	10	μA	$V_R = 4.5\text{ V}$
Capacitance	C_t		100		pF	$V = 0, f = 1.0\text{ MHz}$
Peak Emission Wavelength	λ_{peak}		630		nm	$I_F = 10\text{ mA}$
Spectral Line Half Width	$\Delta\lambda$		40		nm	$I_F = 10\text{ mA}$
Luminous Intensity (SR603D, SR603W)	I_V	1	3		mcd	$I_F = 10\text{ mA}$
Luminous Intensity (SR603C)	I_V	3	6		mcd	$I_F = 10\text{ mA}$