

MODEL NO: 93-22SURSYGC/S530-A2/TR8

Device Number : DSE-932-027 REV. 1.0

***High performance SMD LED with Reflector***

ECN :

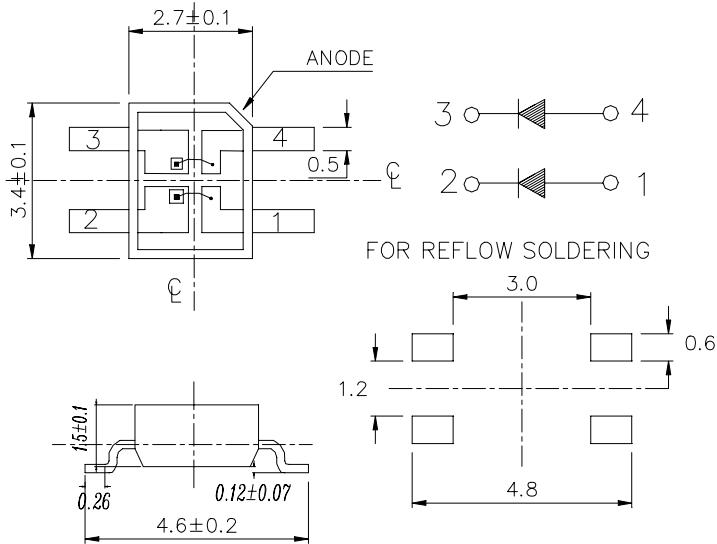
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**■ Features :**

- Package in 12mm tape on 7" diameter reels.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Eia std package.
- IC compatible.

**■ Applications :**

- Automotive: backlighting in dashboards and switches.
- Telecommunication: indicator and backlighting in telephone and fax.
- Indicator and backlight for audio and video equipment.
- Indicator and backlight for battery driven equipment.
- Small indicator for outdoor applications.
- Indicator and backlight in office equipment.
- Flat backlight for LED, switches and symbols.
- General use.

**■ Package Dimensions :****■ Notes :**Tolerances Unless Dimension  $\pm$  0.1mmAngle  $\pm$  0.5°

Unit = mm

PART NO	Chip		Lens Color
	Material	Emitted Color	
93-22SURSYGC/S530-A2/TR8	AlGaInP	Hyper Red	Water
	AlGaInP	Super Yellow Green	

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<http://www.everlight.com>

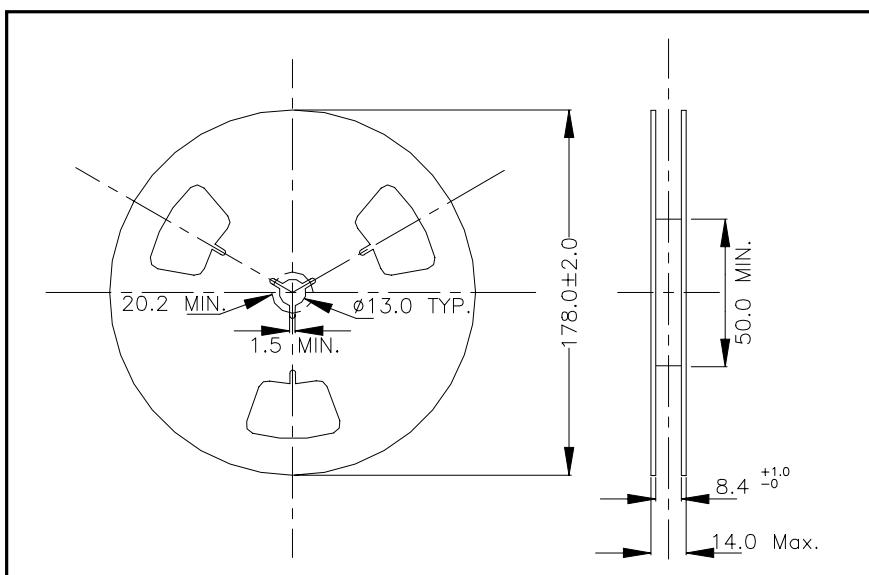
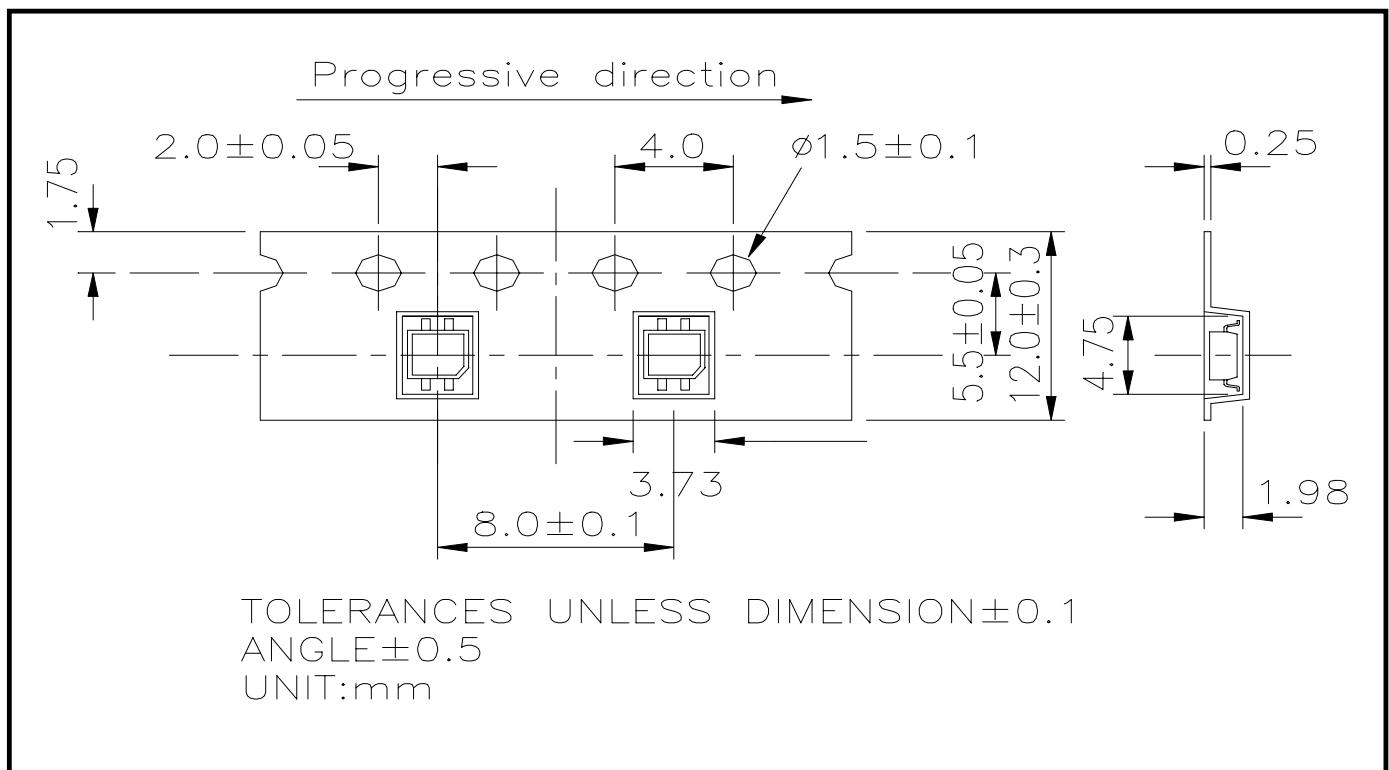
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**■ Package Dimensions :****■ Loaded quantity per reel 1000 PCS/reel :**

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Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	SUR: 25 SYG: 25	mA
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	245 (for 5 second)	°C
Electrostatic Discharge	ESD	SUR: 2000 SYG: 2000	V
Power Dissipation	Pd	SUR: 60 SYG: 60	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	SUR: 160 SYG: 160	mA



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■ **Electronic Optical Characteristics :**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub> SUR: SYG:	1 0.6	2 1	-----	mcd	I <sub>f</sub> =2mA
Luminous Intensity	I <sub>v</sub> SUR: SYG:	17 11	41 17	-----	mcd	I <sub>f</sub> =20mA
Viewing Angle	2θ 1/2	-----	130	-----	deg	I <sub>f</sub> =20mA
Peak Wavelength	λ <sub>p</sub> SUR: SYG:	-----	632 575	-----	nm	I <sub>f</sub> =20mA
Dominant Wavelength	λ <sub>d</sub> SUR: SYG:	-----	624 573	-----	nm	I <sub>f</sub> =20mA
Spectrum Radiation Bandwidth	△λ SUR: SYG:	-----	20 20	-----	nm	I <sub>f</sub> =20mA
Forward Voltage	V <sub>f</sub> SUR: SYG:	-----	2.0 2.0	2.4 2.4	V	I <sub>f</sub> =20mA
Reverse Current	I <sub>f</sub>	-----	-----	10	μA	V <sub>r</sub> =5V

MODEL NO: 93-22SURSYGC/S530-A2/TR8 Device Number : DSE-932-027 REV. 1.0***High performance SMD LED with Reflector***ECN : ----- Page: 5/9**■ Reliability Test Items And Conditions**

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min ↓ 5 min L : -55°C 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ↓ 10 sec L : -10°C 5min	50 CYCLE	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	If = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1



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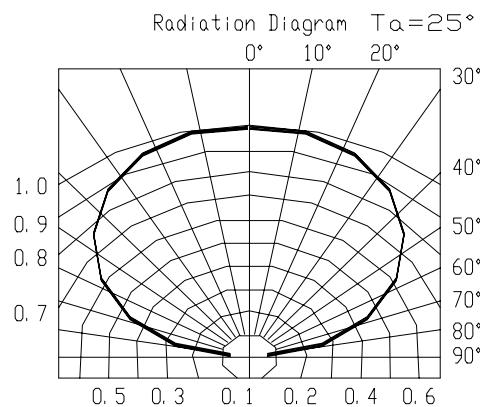
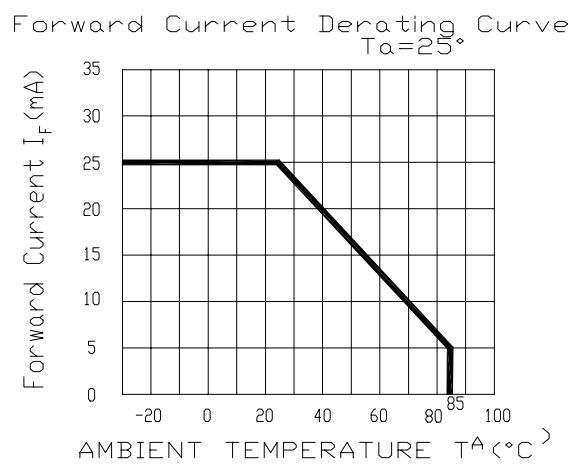
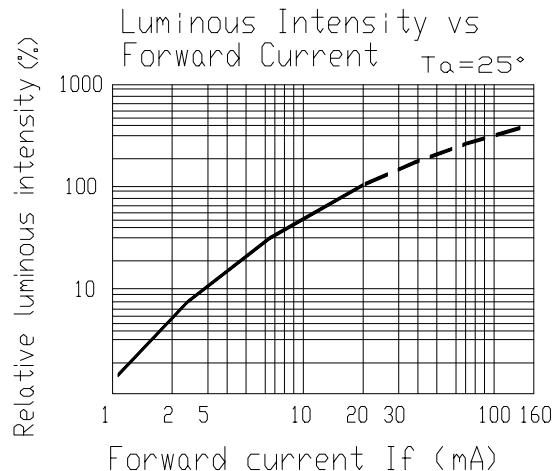
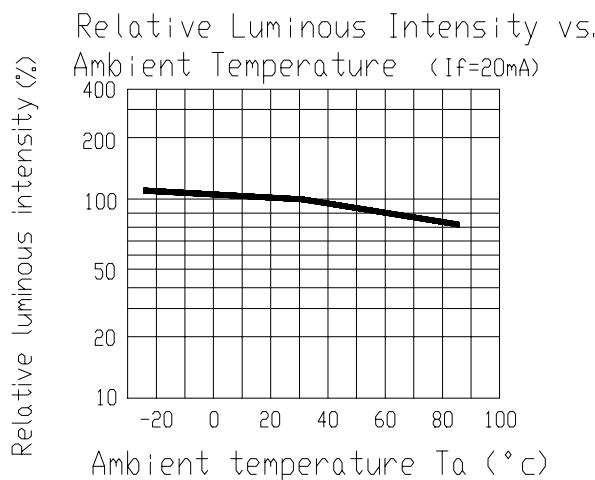
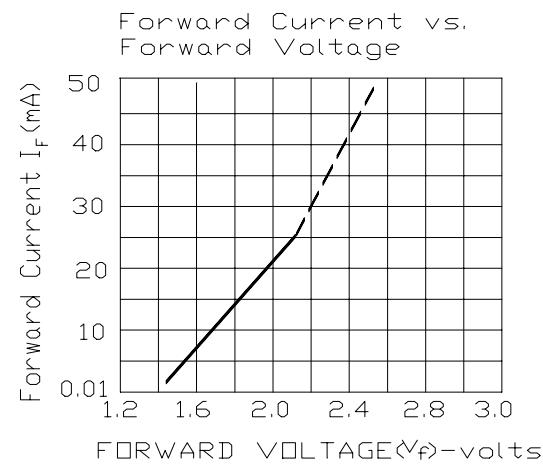
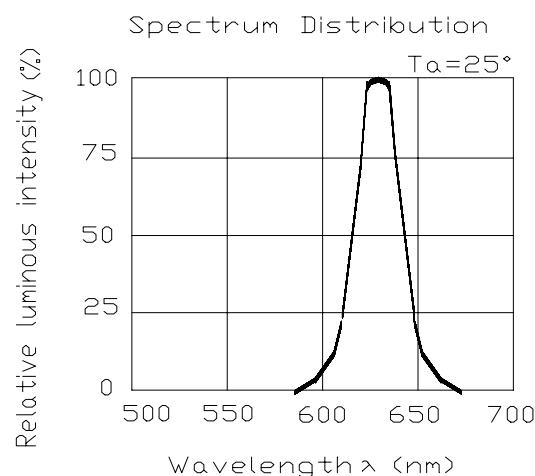
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### ■ Typical Electro-Optical Characteristic Curves(SUR)





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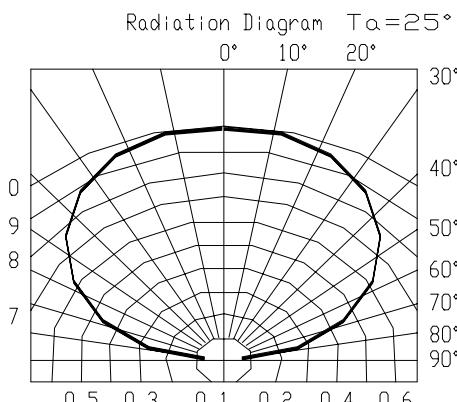
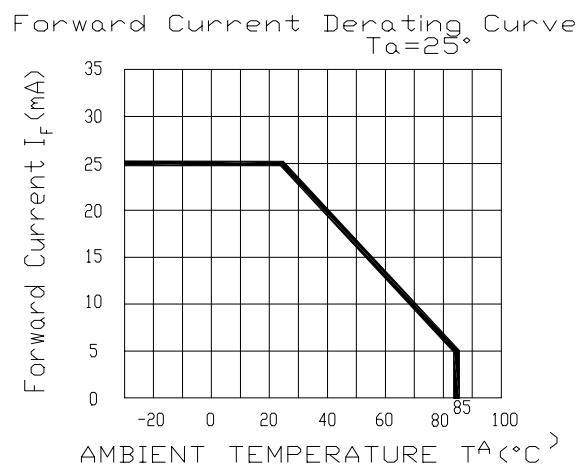
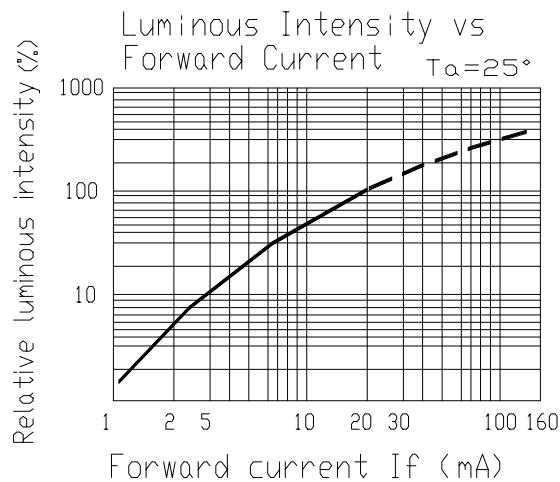
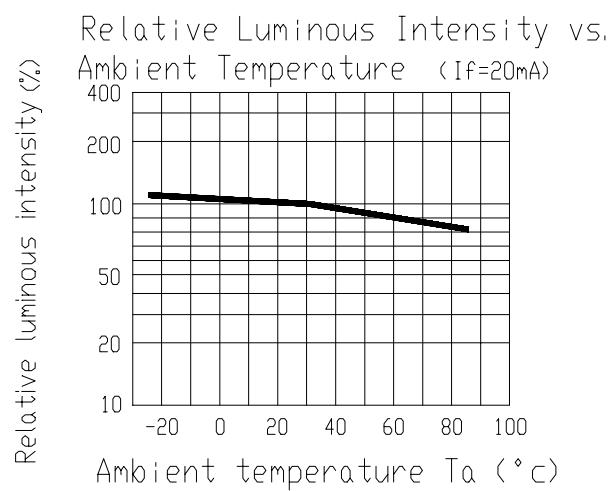
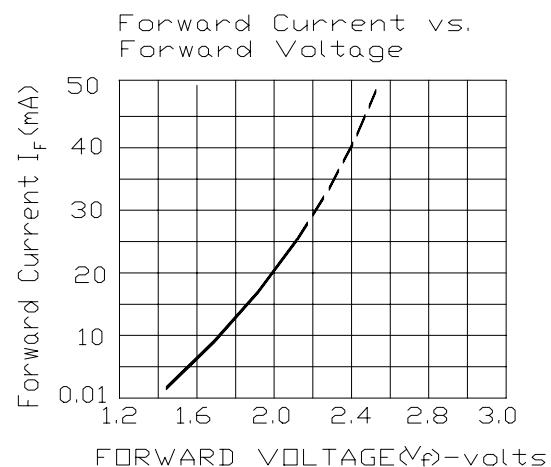
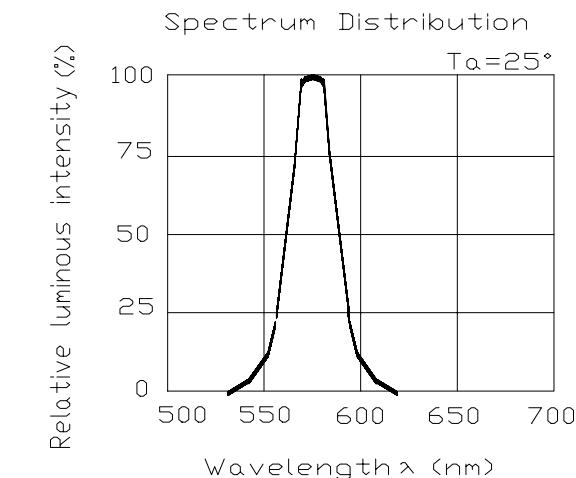
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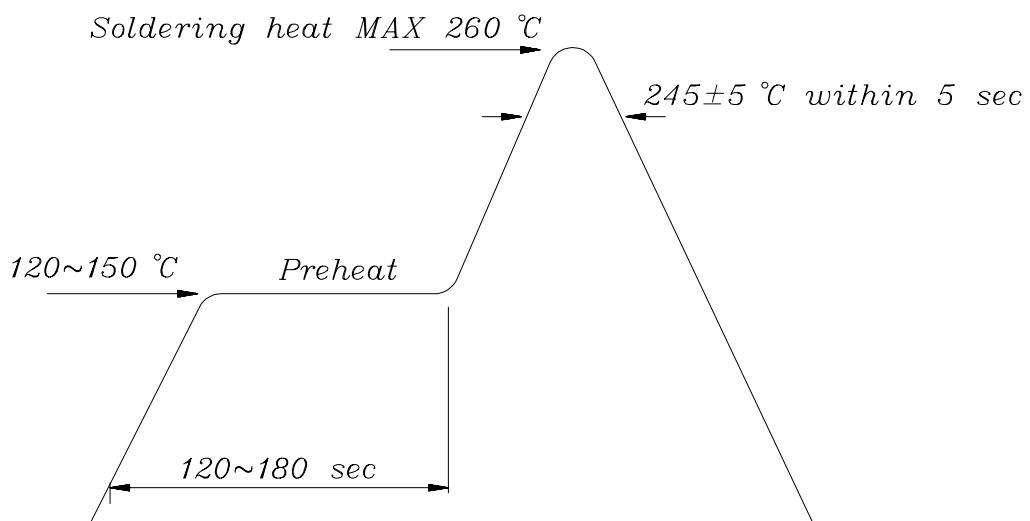
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### ■ Typical Electro-Optical Characteristic Curves(SYG)



MODEL NO: 93-22SURSYGC/S530-A2/TR8 Device Number : DSE-932-027 REV. 1.0***High performance SMD LED with Reflector***ECN : ----- Page: 8/9**■ Soldering heat reliability ( DIP )**

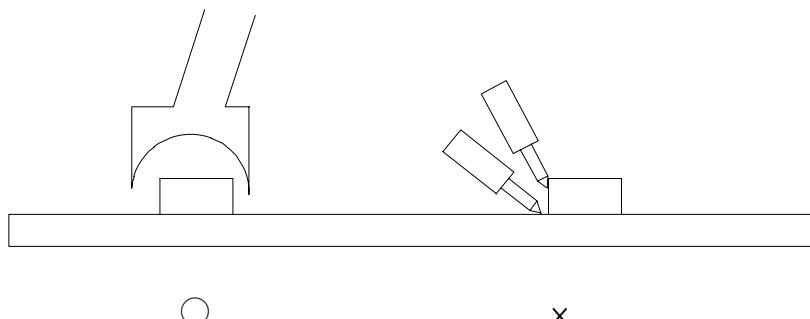
Please refer to the following figure :

**■ Soldering Iron**

Basic spec is  $\leq 5$  sec when  $245$  °C. If temperature is higher, time should be shorter ( $+10$  °C  $\rightarrow$   $-1$  sec). Power dissipation of iron should be smaller than  $15$  W, and temperature should be controllable. Surface temperature of the device should be under  $230$  °C.

**■ Rework**

1. Customer must finish rework within 5 sec under  $245$  °C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



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