

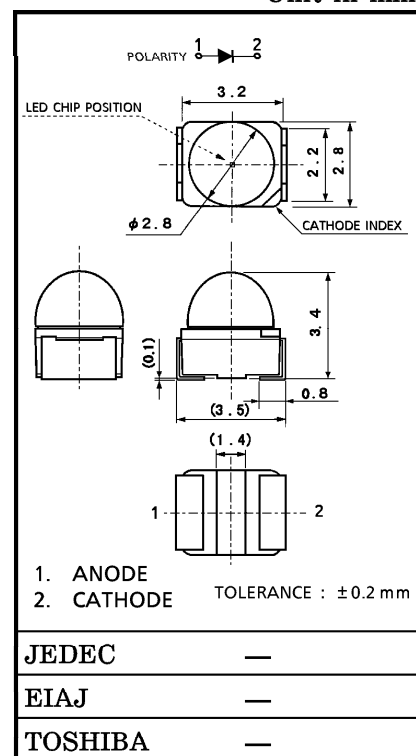
TOSHIBA LED LAMP

S4F43Q1 (T10), S4F43Z1 (T10)

PANEL CIRCUIT INDICATOR

Unit in mm

- Surface Mount Device
- 3.2 (L) × 2.8 (W) × 3.4 (H) mm Size
- $\phi 2.8$ mm Diameter Lens-top Type
- InGaAlP LED (High-Bright type)
- Line-up
2 Colors : Green, Pure Green
- Available of Automounting Machine Use
- Low Drive Current, High Intensity Light Emission
- Clear luminescence is obtained.
- High Operating Temperature : $T_{opr} \cdot T_{stg} \quad -40 \sim 100^{\circ}\text{C}$
- Standard Embossed Taping
8 mm Pitch : T10 (500 pcs / reel)
- Applications : Automotive use, Message Signboard, Backlight, etc.



Weight : 42 mg

LINE-UP

PRODUCT NAME	COLOR	MATERIAL
S4F43Q1	Green	InGaAlP
S4F43Z1	Pure Green	InGaAlP

MAXIMUM RATINGS ($T_a = 25^{\circ}\text{C}$)

PRODUCT NAME	FORWARD CURRENT I_F (mA)	REVERSE VOLTAGE V_R (V)	POWER DISSIPATION P_D (mW)	OPERATING TEMPERATURE T_{opr} ($^{\circ}\text{C}$)	STORAGE TEMPERATURE T_{stg} ($^{\circ}\text{C}$)
S4F43Q1	50	4	140	$-40 \sim 100$	$-40 \sim 100$
S4F43Z1	50	4	140		

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

PRODUCT NAME	FORWARD VOLTAGE V_F				REVERSE CURRENT I_R	
	MIN	TYP	MAX	I_F	MAX	V_R
S4F43Q1	—	2.27	2.8	20	50	4
S4F43Z1	—	2.27	2.8	20	50	4
Unit	V			mA	μA	V

OPTICAL CHARACTERISTICS-1 (Ta = 25°C)

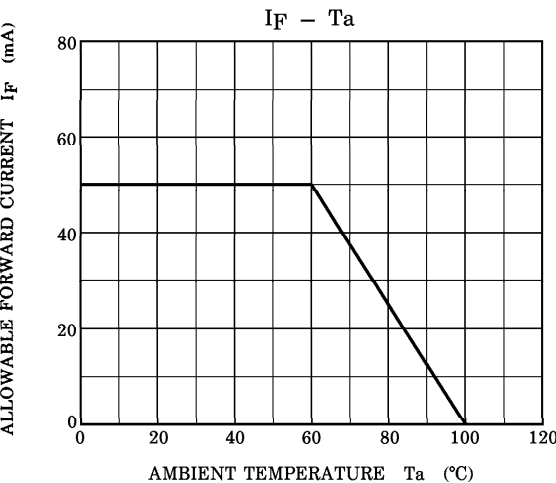
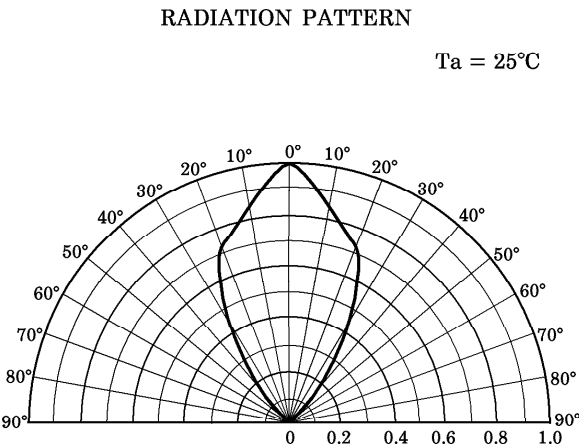
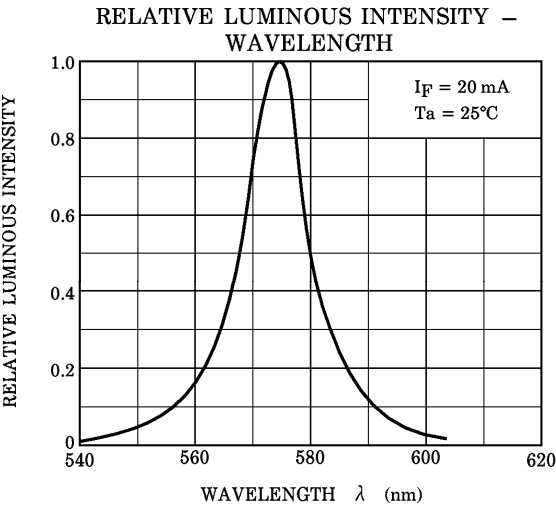
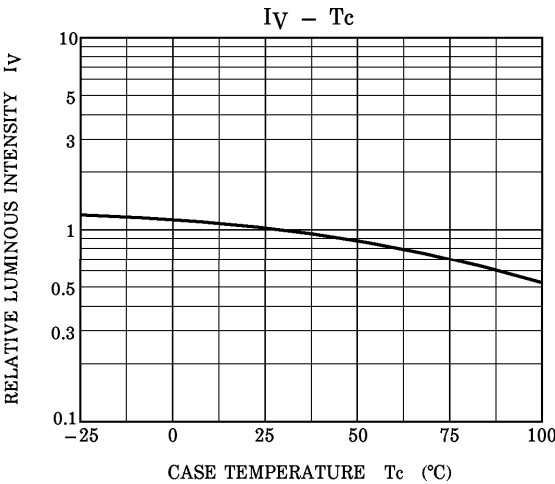
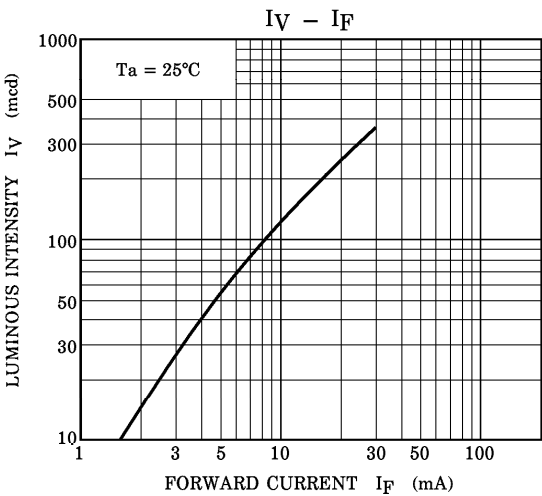
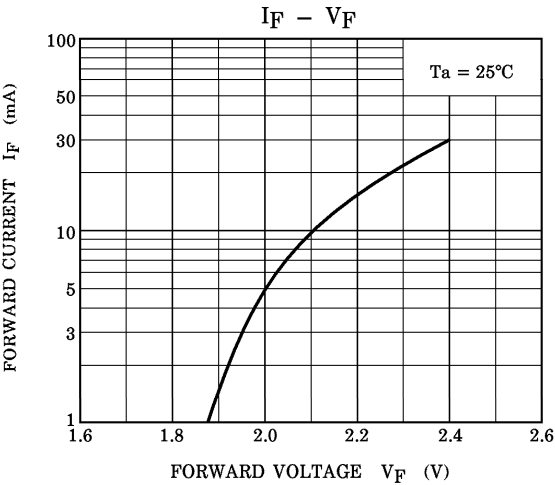
PRODUCT NAME	LUMINOUS INTENSITY I_V			
	MIN	TYP.	MAX	I_F
S4F43Q1	85	250	—	20
S4F43Z1	27.2	60	—	20
Unit	mcd			mA

OPTICAL CHARACTERISTICS-2 (Ta = 25°C)

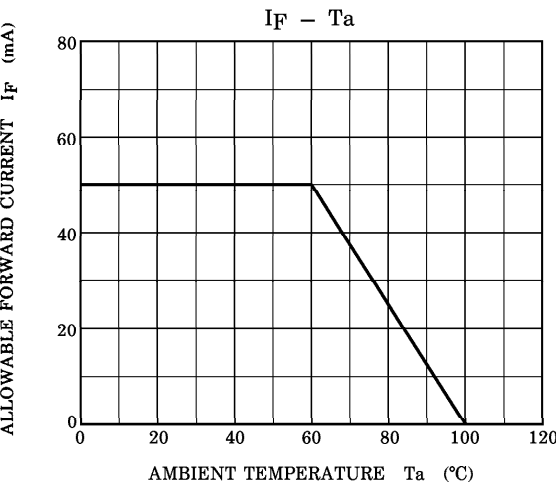
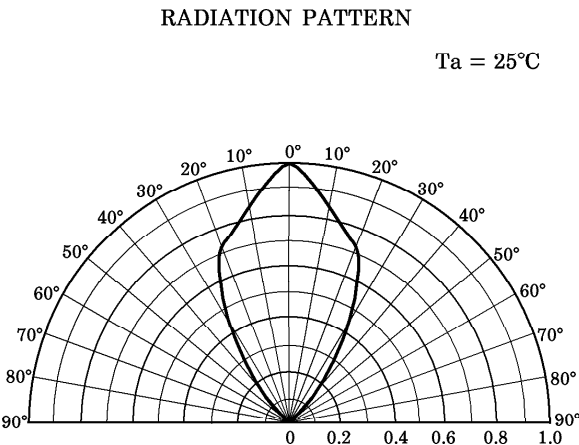
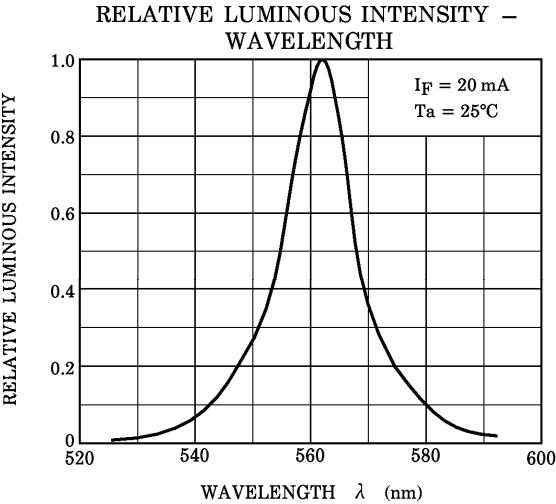
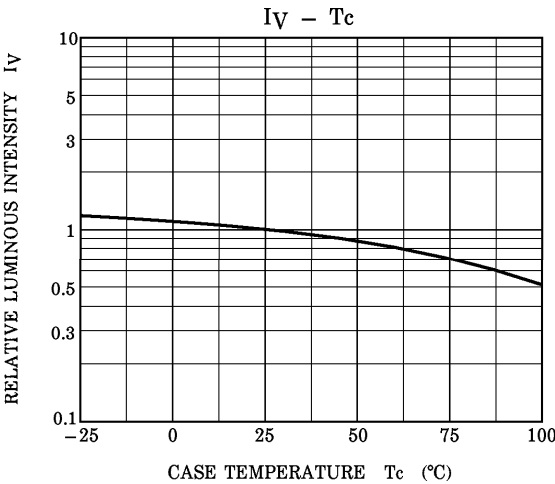
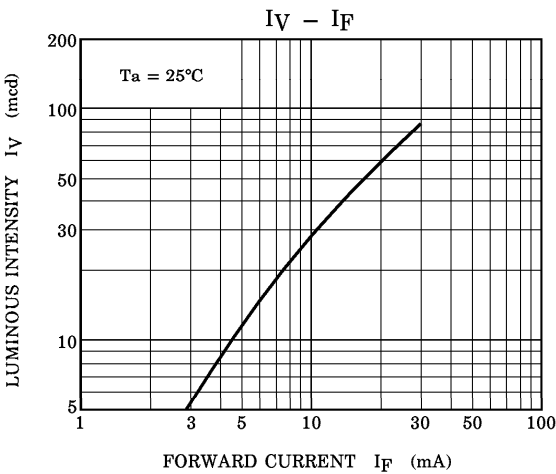
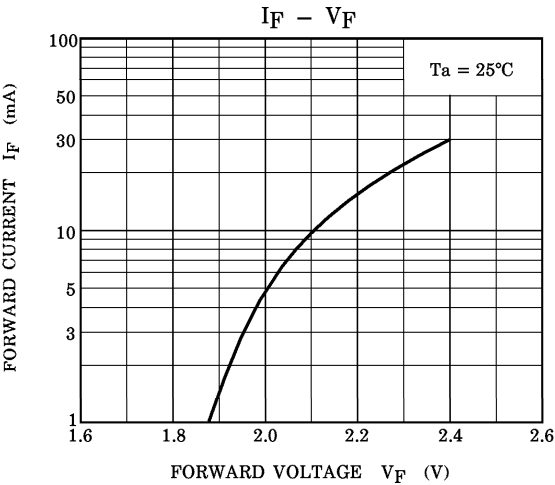
PRODUCT NAME	EMISSION SPECTRUM							I _F
	Peak Emission Wavelength λ _p			Δλ TYP.	Dominant Wavelength λ _d			
	MIN	TYP.	MAX		MIN	TYP.	MAX	
S4F43Q1	—	574	—	11	—	571	—	20
S4F43Z1	—	562	—	11	—	558	—	20
UNIT	nm			nm	nm			mA

(Note) : This visible LED lamp also emits some IR light.
If a photodetector is located near the LED lamp, please ensure that it will not be affected by this IR light.

S4F43Q1



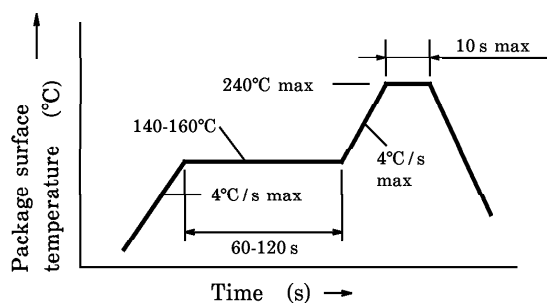
S4F43Z1



SOLDERING

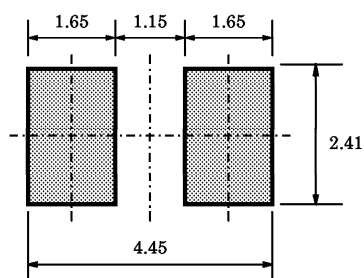
Reflow soldering

Temperature profile



(*) Reflow is permitted just one time.

Recommended soldering pattern



(Unit in mm)

RECOMMENDATION FOR MANUAL SOLDERING

Soldering iron	: Less than 25 W
Temperature	: Lower than 300°C
Time	: Within 3 s

POST SOLDERING CLEANING

When cleaning after soldering is needed, the following condition must be adhered to.

Cleaning solvents	: AK225 or Alcohol
Temperature	: 50°C (max) for 30 s (max) or 30°C (max) for 3 minutes (max)
Ultrasonic	: 300 W max

PACKAGING

This LED device is packed in an aluminum envelope with silica gel to avoid moisture absorption. The optical characteristics may be affected by exposure to moisture in the air before soldering and it should be stored under the following conditions.

Temperature : 5~30°C

Relative Humidity : 60% or lower

Baking is required if the device have been stored with unopened for more than 6 months or if the aluminum envelope has been opened for more than 168 h.

Recommended baking condition is 60°C for 12 h minimum in the dry atmosphere.

PRECAUTION FOR MOUNTING

Do not apply force to the plastic part of the LED in high temperature conditions.

Do not apply friction using a hard materials for avoid injuring the plastic part of the LED.

Keep the LED away from any other parts when assembling boards into the set.

TAPING SPECIFICATIONS

1. Taping Number

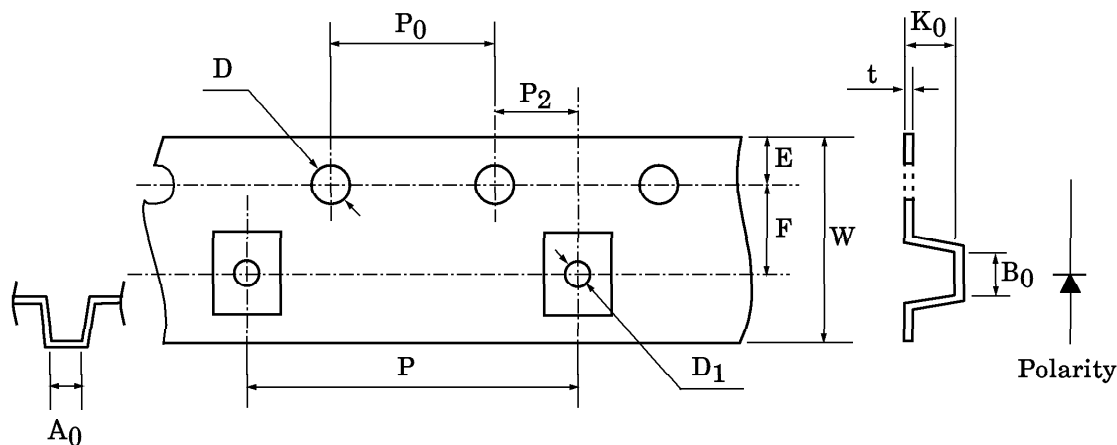
(1) Name : T10

(2) Example : S4F43□ (T10)

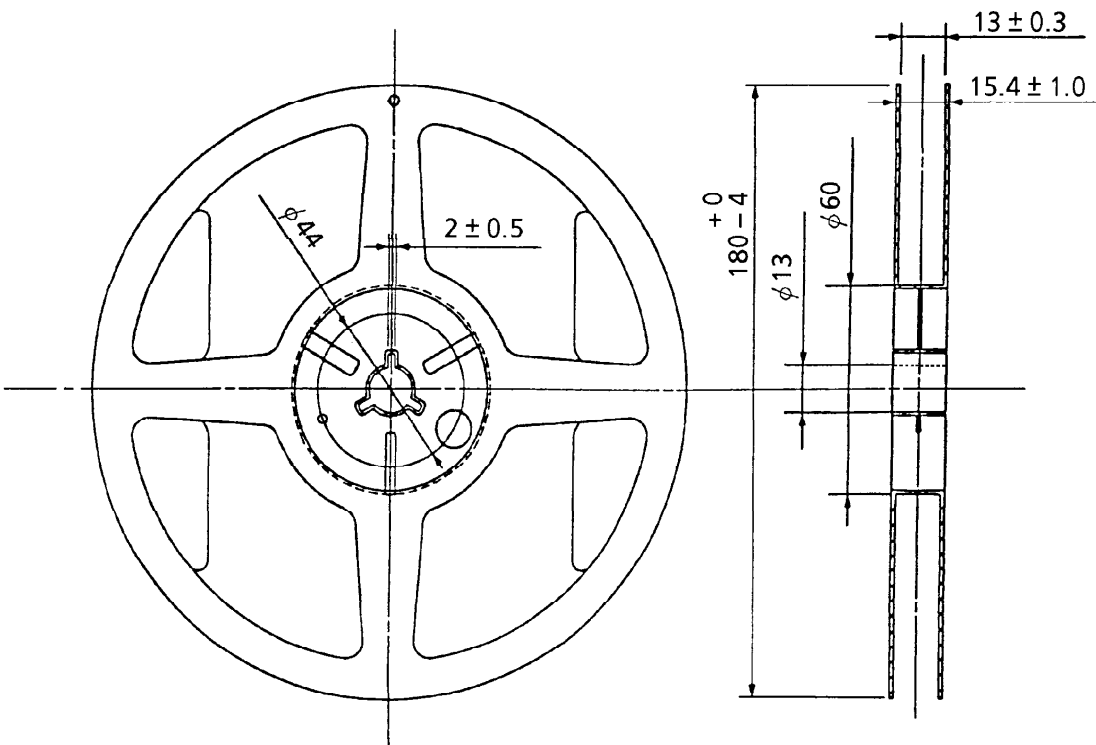
Tape Specification
Device Identifier

2. Dimension of tape

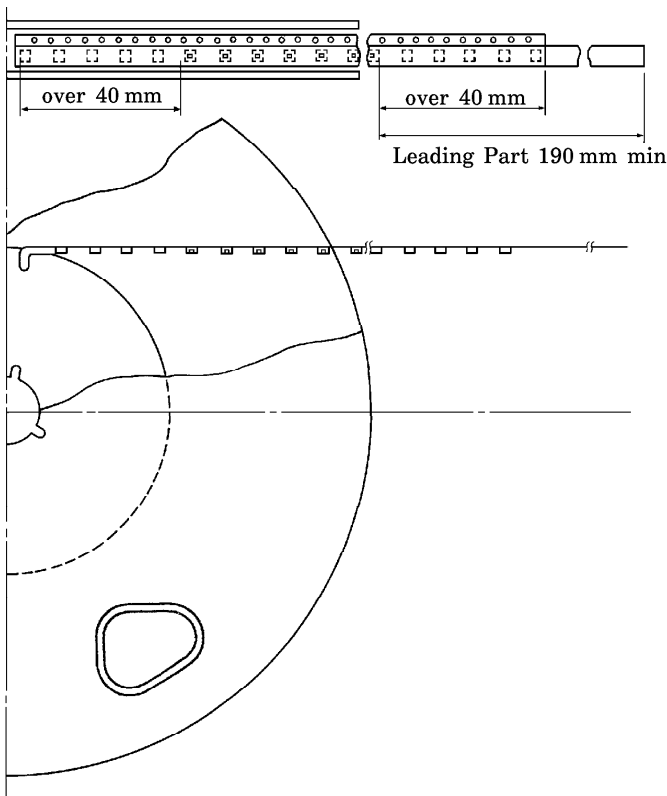
ITEM	DIMENSIONS	TOLERANCE	ITEM	DIMENSIONS	TOLERANCE
D	1.5	+0.1 / -0	P ₂	2.0	±0.05
E	1.75	±0.1	W	12.0	±0.3
P ₀	4.0	±0.1	P	8.0	±0.1
t	0.3	±0.05	A ₀	2.9	±0.1
F	5.5	±0.05	B ₀	3.7	±0.1
D ₁	1.5	+0.1 / -0	K ₀	3.6	±0.1



3. Dimension of reel (Unit in mm)



4. Leading part (Unit in mm)



5. Packing Form

(1) Number of Devices per Reel and Carton

Reel	500 devices
Carton	2500 devices

(2) Packing : Silica gel and reel are packed into sealed aluminum pack.

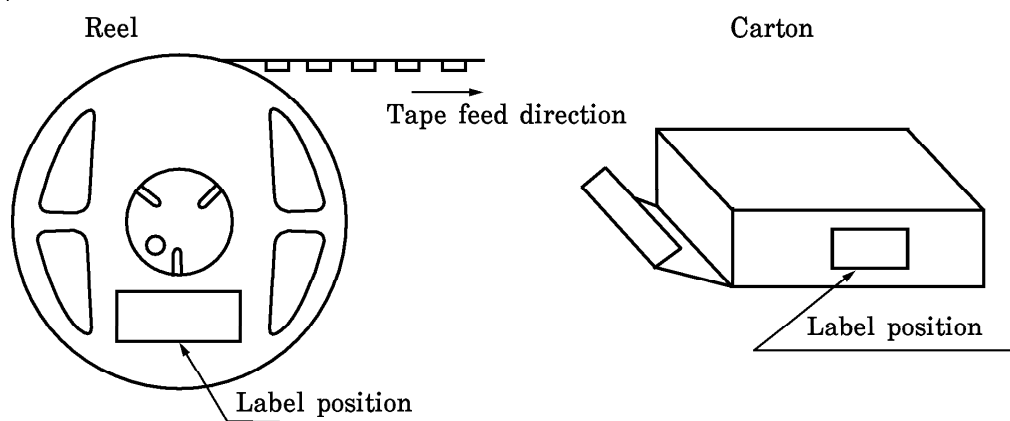
6. Notation Method

(1) Example : S4F43Q1 (T09)

P / N :

TYPE	S4F43Q1		
ADD. C	(T09)	Q'TY	500 pcs
NOTE	(rank symbol) Lot Number		

(2) Label location :



Aluminum pack : Attached to center of one side

RESTRICTIONS ON PRODUCT USE

000707EAC

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