

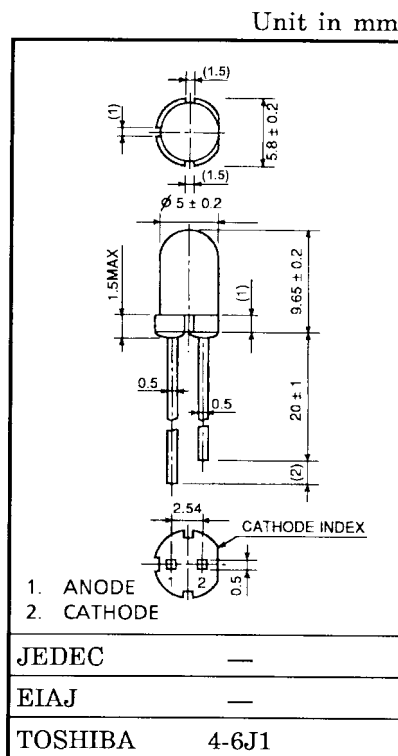
TLRE20TP,TLRME20TP,TLSE20TP,TLOE20TP,TLYE20TP

Panel Circuit Indicator

- 5 mm package
- InGaA/P technology
- All plastic mold type
- Transparent lens
- High intensity light emission
- Excellent low current light output
- Applications:
outdoor message signboards, safety equipment, automotive use, etc

Line-Up

Product Name	Color	Material
TLRE20TP	Red	InGaA/P
TLRME20TP	Red	
TLSE20TP	Red	
TLOE20TP	Orange	
TLYE20TP	Yellow	



Weight : 0.31 g

Maximum Ratings (Ta = 25°C)

Product Name	Forward Current I _F (mA)	Reverse Voltage V _R (V)	Power Dissipation P _D (mW)	Operating Temperature T _{opr} (°C)	Storage Temperature T _{stg} (°C)
TLRE20TP	50	4	120	-40~100	-40~120
TLRME20TP	50	4	120		
TLSE20TP	50	4	120		
TLOE20TP	50	4	120		
TLYE20TP	50	4	120		

961001EAC1

- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

Electrical and Optical Characteristics (Ta = 25°C)

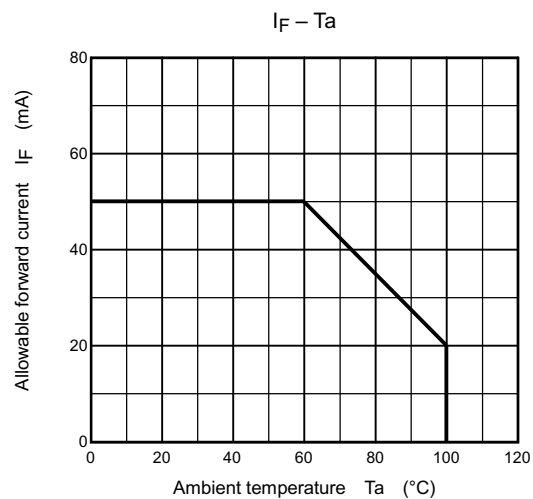
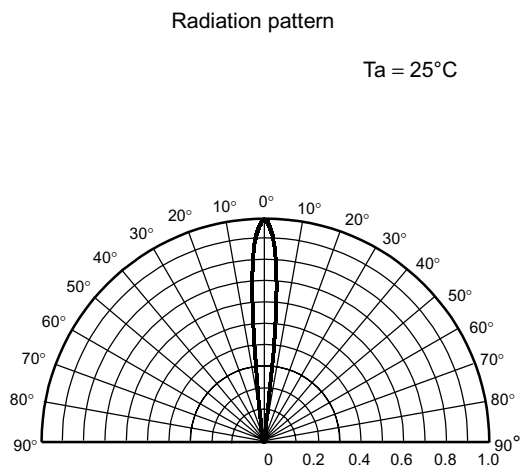
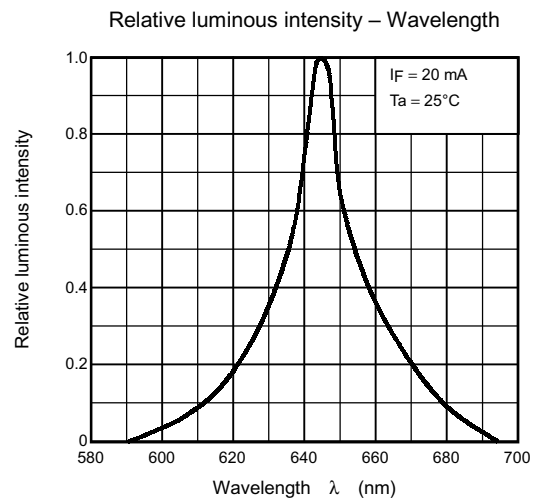
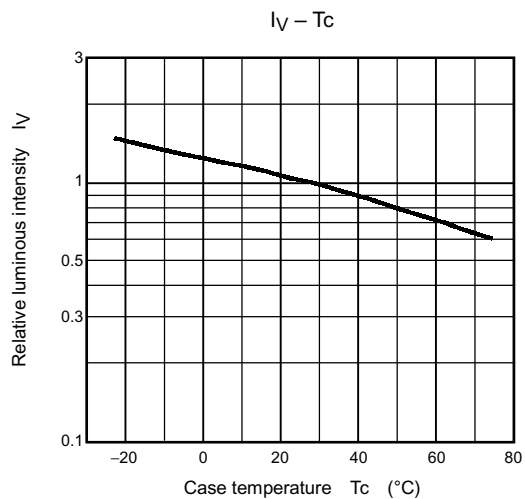
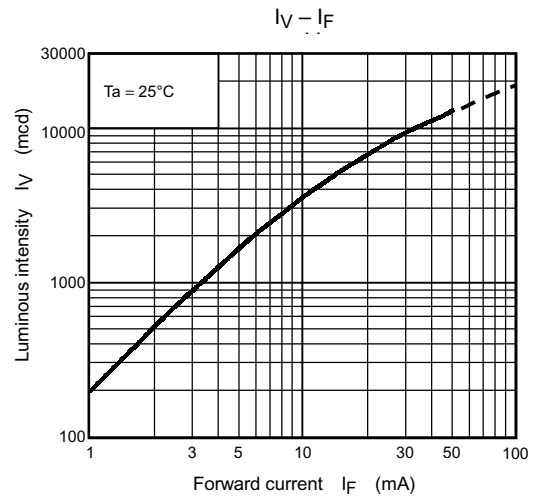
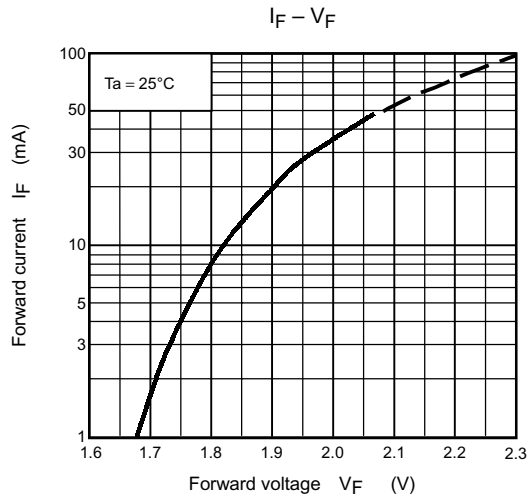
Product Name	Typ. Emission Wavelength				Luminous Intensity I _V			Forward Voltage V _F			Reverse Current I _R	
	λ _d	λ _p	Δλ	I _F	Min	Typ.	I _F	Typ.	Max	I _F	Max	V _R
TLRE20TP	630	(644)	20	20	2720	7000	20	1.9	2.4	20	50	4
TLRME20TP	626	(636)	23	20	2720	8000	20	1.9	2.4	20	50	4
TLSE20TP	613	(623)	20	20	2720	9000	20	1.9	2.4	20	50	4
TLOE20TP	605	(612)	20	20	4760	10000	20	2.0	2.4	20	50	4
TLYE20TP	587	(590)	17	20	2720	9500	20	2.0	2.4	20	50	4
Unit	nm			mA	mcd		mA	V		mA	μA	V

Precautions

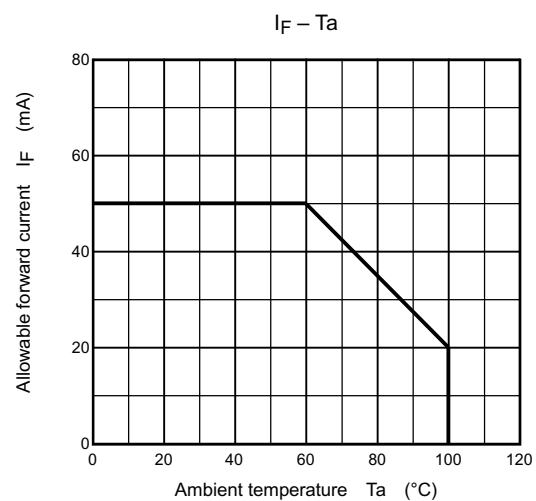
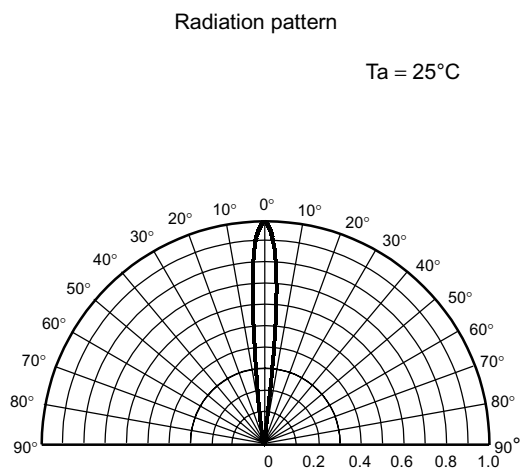
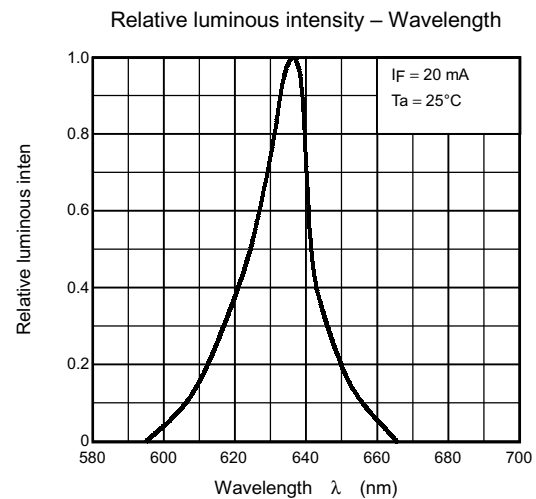
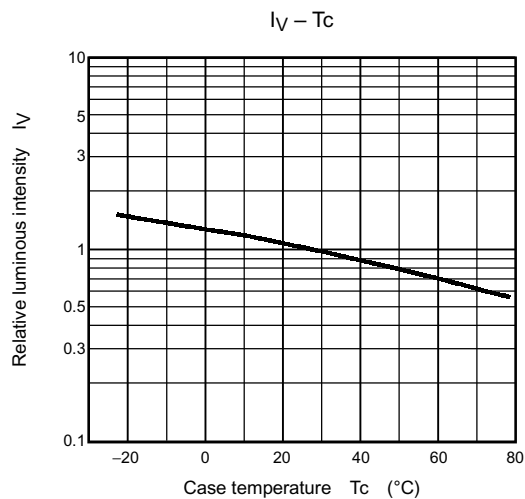
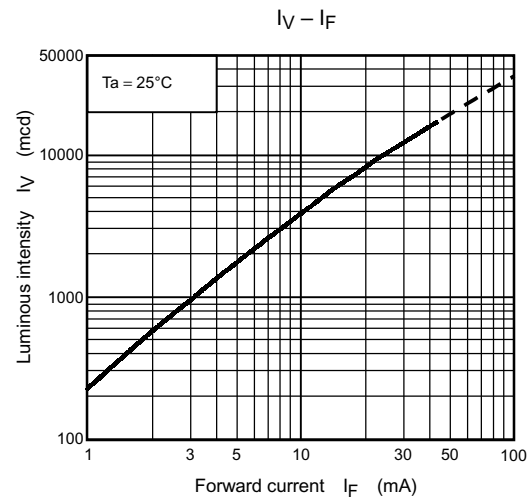
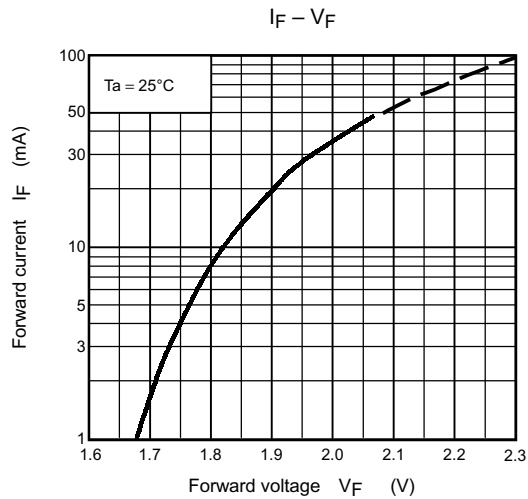
Please be careful of the following:

- Soldering temperature: 260°C max, soldering time: 3 s max
(soldering portion of lead: up to 2 mm from the body of the device)
- If the lead is formed, the lead should be formed up to 5 mm from the body of the device without forming stress to the resin. Soldering should be performed after lead forming.
- 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.

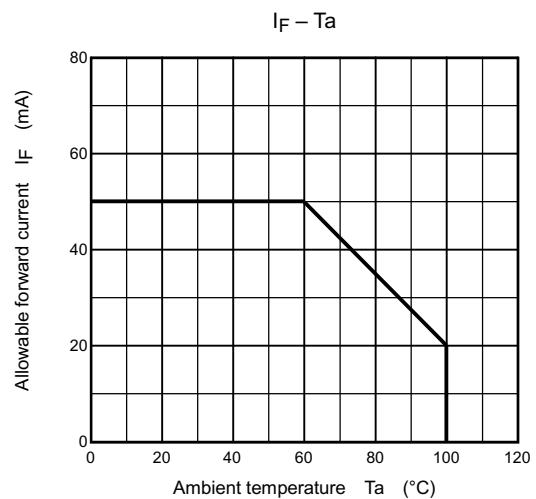
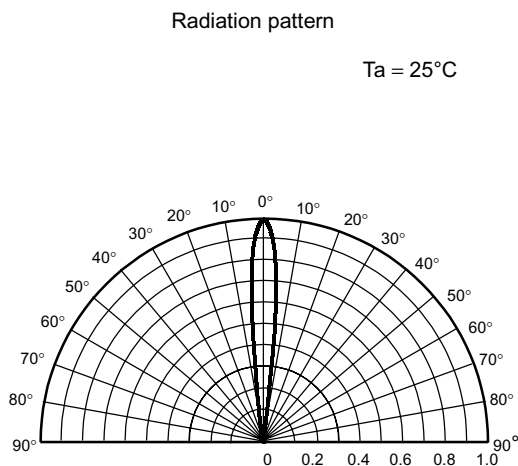
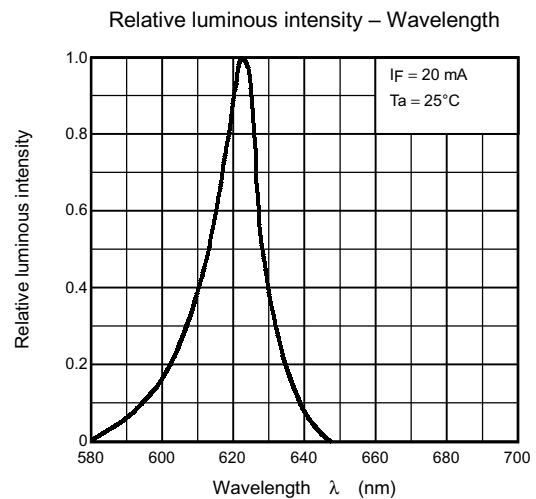
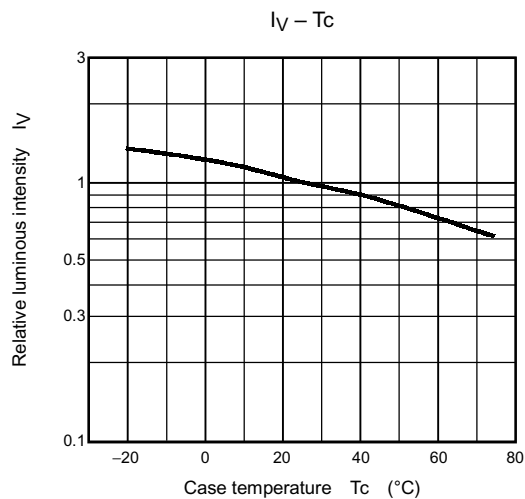
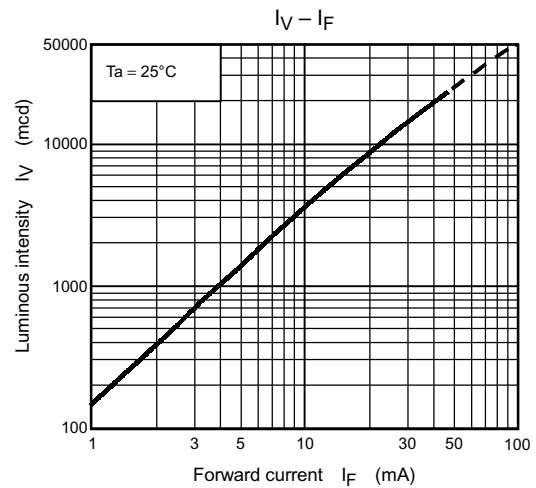
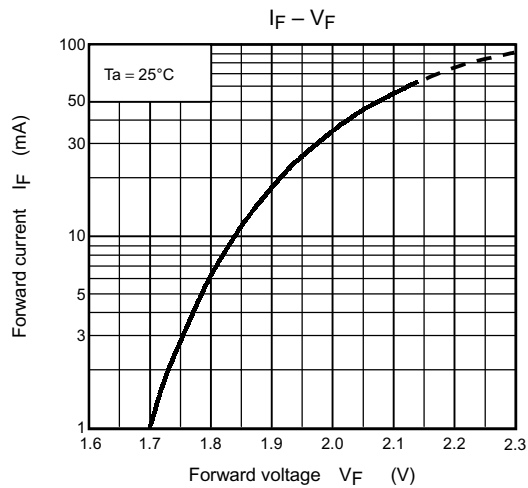
TLRE20TP



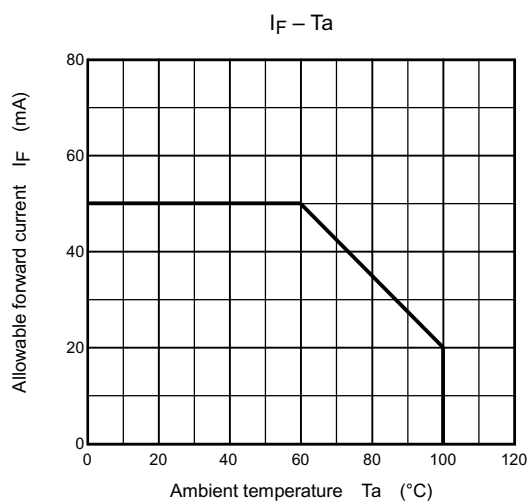
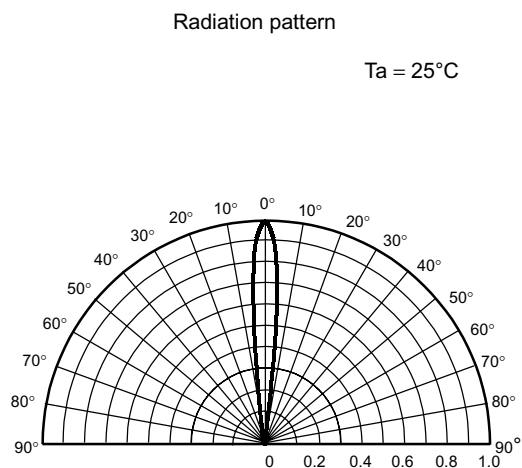
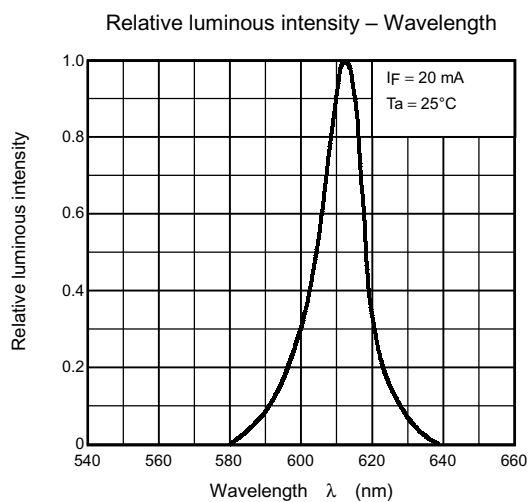
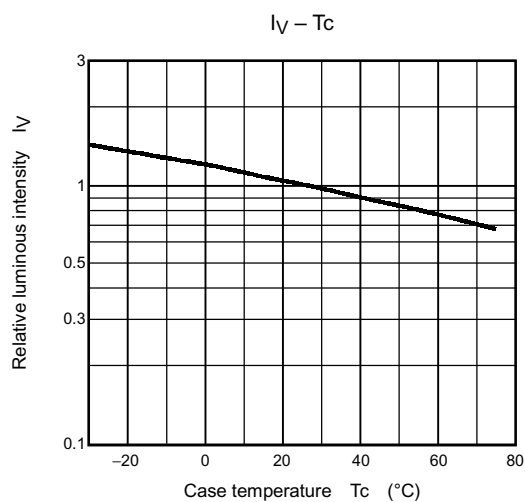
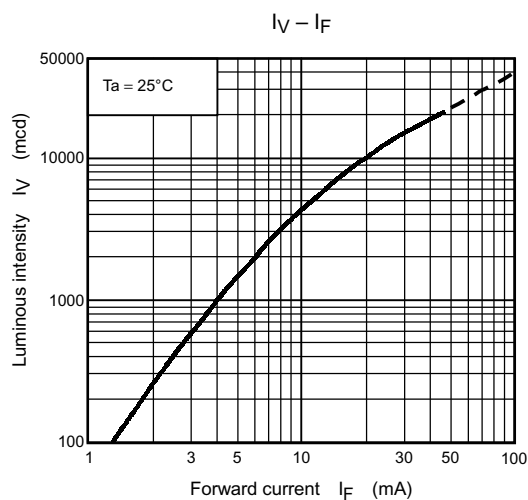
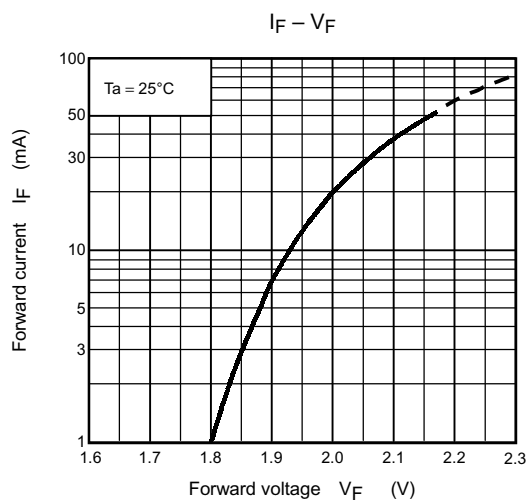
TLRME20TP



TLSE20TP



TLOE20TP



TLYE20TP

