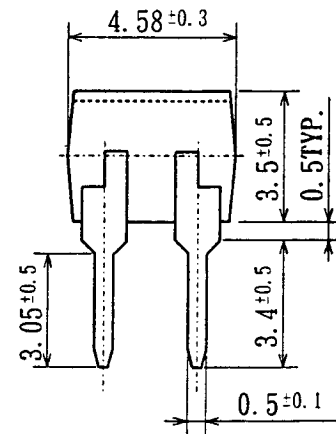
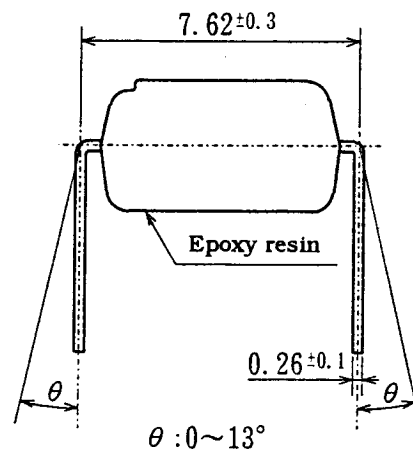
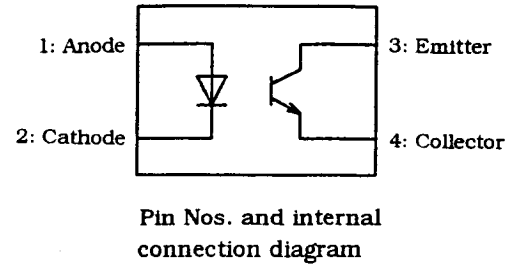
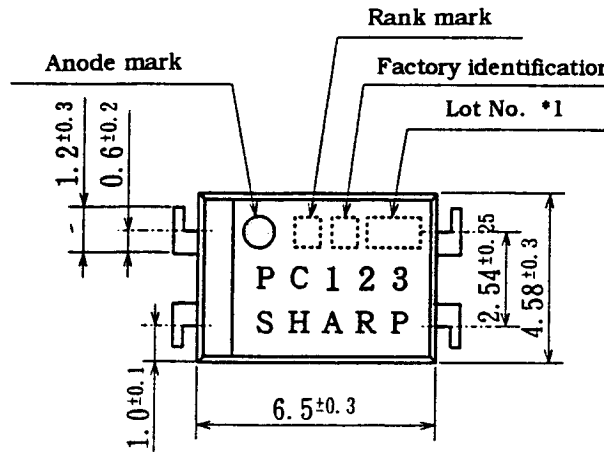


## 2. Outline



Product mass : Approx. 0.18g

\*1) 2-digit number shall be marked according to DIN standard.

\*2) Factory identification mark shall be or shall not be marked.

\*3) Marking is laser marking

UNIT : 1/1 mm

Name

PC123  
Outline Dimensions  
(Business dealing  
name : PC123)Drawing  
No.

CY7251K02

## 3. Ratings and characteristics

## 3.1 Absolute maximum ratings

Ta=25°C

Parameter		Symbol	Rating	Unit
Input	*1 Forward current	$I_F$	50	mA
	*2 Peak forward current	$I_{FM}$	1	A
	Reverse voltage	$V_R$	6	V
	*1 Power dissipation	P	70	mW
Output	Collector-emitter voltage	$V_{CEO}$	70	V
	Emitter-collector voltage	$V_{ECO}$	6	V
	Collector current	$I_C$	50	mA
	*1 Collector power dissipation	$P_C$	150	mW
*1 Total power dissipation		$P_{tot}$	200	mW
*3 Isolation voltage		$V_{iso}$	5	kV <sub>rms</sub>
Operating temperature		$T_{opr}$	-30 to +100	°C
Storage temperature		$T_{stg}$	-55 to +125	°C
*4 Soldering temperature		$T_{sol}$	260	°C

\*1 The derating factors of absolute maximum ratings due to ambient temperature are shown in Fig. 1 to 4.

\*2 Pulse width  $\leq 100 \mu s$ , Duty ratio : 0.001 (Refer to Fig. 5)

\*3 AC for 1 min, 40 to 60%RH

\*4 For 10 s

## 3.2 Electro-optical characteristics

Ta=25°C

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	$V_F$	$I_F=20\text{mA}$	-	1.2	1.4	V
	Reverse current	$I_R$	$V_R=4\text{V}$	-	-	10	$\mu\text{A}$
	Terminal capacitance	$C_t$	$V=0, f=1\text{kHz}$	-	30	250	pF
Output	Dark current	$I_{CEO}$	$V_{CE}=50\text{V}, I_F=0$	-	-	100	nA
	Collector-emitter breakdown voltage	$BV_{CEO}$	$I_c=0.1\text{mA}$ $I_F=0$	70	-	-	V
	Emitter-collector breakdown voltage	$BV_{ECO}$	$I_E=10\mu\text{A}, I_F=0$	6	-	-	V
Transfer characteristics	Collector current	$I_c$	$I_F=5\text{mA}, V_{CE}=5\text{V}$	2.5	-	20	mA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=20\text{mA}$ $I_c=1\text{mA}$	-	0.1	0.2	V
	Isolation resistance	$R_{ISO}$	DC=500V 40 to 60%RH	$5 \times 10^{10}$	$10^{11}$	-	$\Omega$
	Floating capacitance	$C_f$	$V=0, f=1\text{MHz}$	-	0.6	1.0	pF
	Cut-off frequency	$f_c$	$V_{CE}=5\text{V}, I_c=2\text{mA}$ $R_L=100\Omega, -3\text{dB}$	-	80	-	kHz
	Response time (Rise)	$t_r$	$V_{CE}=2\text{V}$ $I_c=2\text{mA}$ $R_L=100\Omega$	-	4	18	$\mu\text{s}$
	Response time (Fall)	$t_f$		-	3	18	$\mu\text{s}$