

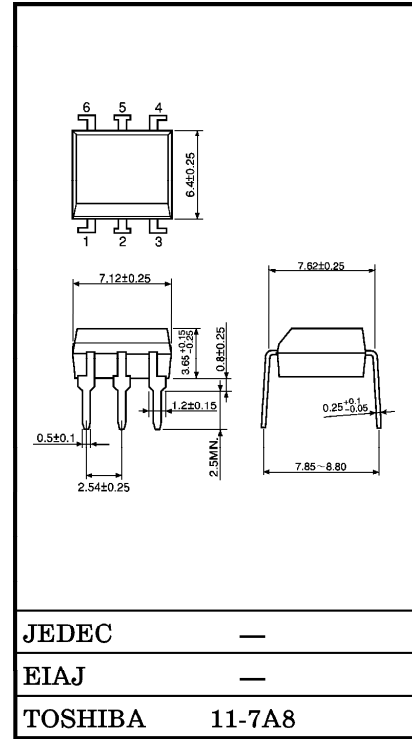
(CNY17-2)

- AC LINE /DIGITAL LOGIC ISOLATOR
- DIGITAL LOGIC /DIGITAL LOGIC ISOLATOR
- TELEPHONE LINE RECEIVER
- TWISTED PAIR LINE RECEIVER
- HIGH FREQUENCY POWER SUPPLY FEEDBACK CONTROL
- RELAY CONTACT MONITOR

The TOSHIBA Corporation CNY17 consist of a gallium arsenide infrared emitting diode coupled with a silicon photo transistor in a dual in-line package.

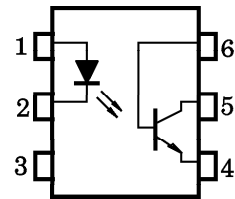
- Small Package Size and Low Cost
- Fast Switching Speeds :  $5\mu s$
- High DC Current Transfer Ratio : CTR ( $I_F = 10mA, V_{CE} = 5V$ )  
 CNY17-2 : 63~125%  
 CNY17-3 : 100~200%  
 CNY17-4 : 160~320%
- High Isolation Resistance :  $10^{11}\Omega$
- High Isolation Voltage : 4400V

Unit in mm



Weight : 0.4g

PIN CONFIGURATION



- 1 : ANODE
- 2 : CATHODE
- 3 : N.C.
- 4 : EMITTER
- 5 : COLLECTOR
- 6 : BASE

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MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	I <sub>F</sub>	60	mA
	Forward Current Derating	ΔI <sub>F</sub> /°C	0.8*	mA/°C
	Peak Forward Current (Note)	I <sub>PF</sub>	3	A
	Power Dissipation	P <sub>D</sub>	100	mW
	Power Dissipation Derating	ΔP <sub>D</sub> /°C	1.33*	mW/°C
	Reverse Voltage	V <sub>R</sub>	6	V
PHOTO-TRANSISTOR	Collector-Emitter Voltage	BV <sub>CEO</sub>	70	V
	Collector-Base Voltage	BV <sub>CBO</sub>	70	V
	Emitter-Collector Voltage	BV <sub>ECO</sub>	7	V
	Collector Current	I <sub>C</sub>	100	mA
	Power Dissipation	P <sub>C</sub>	150	mW
	Power Dissipation Derating	ΔP <sub>C</sub> /°C	2.0*	mW/°C
COUPLED LED	Storage Temperature	T <sub>stg</sub>	-55~150	°C
	Operating Temperature	T <sub>opr</sub>	-55~100	°C
	Lead Soldering Temperature (10s)	T <sub>sol</sub>	260	°C
	Total Package Dissipation	P <sub>T</sub>	200	mW
	Total Package Power Dissipation Derating	ΔP <sub>T</sub> /°C	2.6*	mW/°C

Note : Pulse Width 1μs, 300pps.

\* Above 25°C ambient.

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

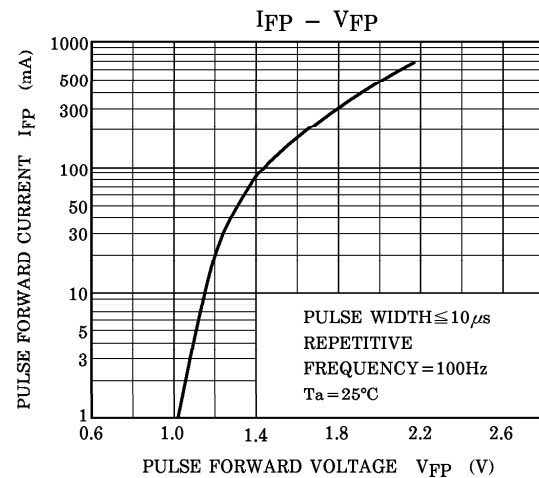
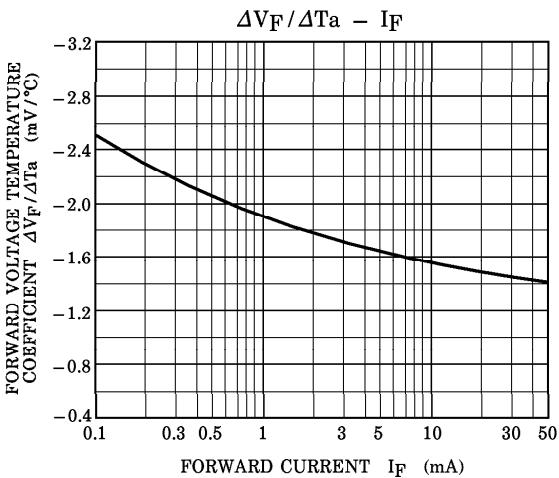
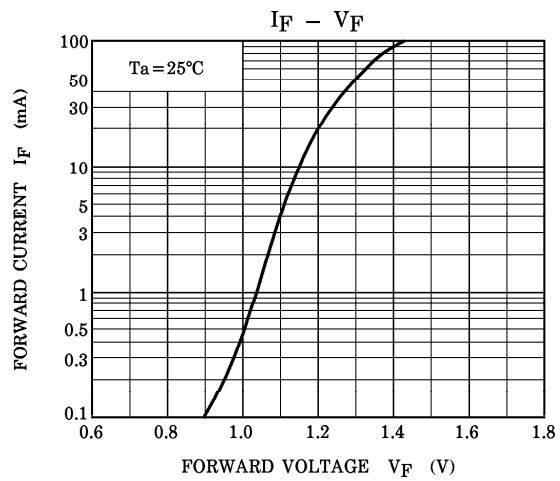
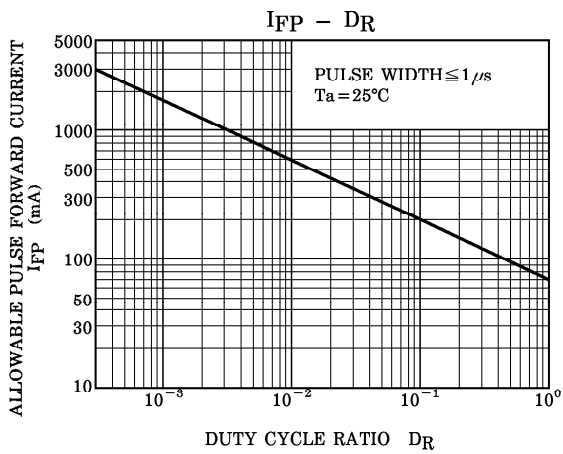
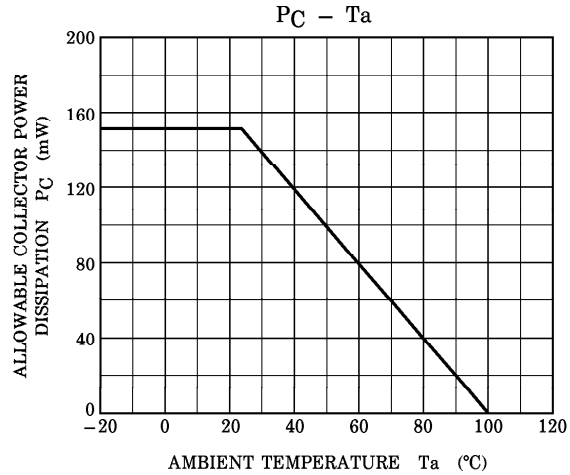
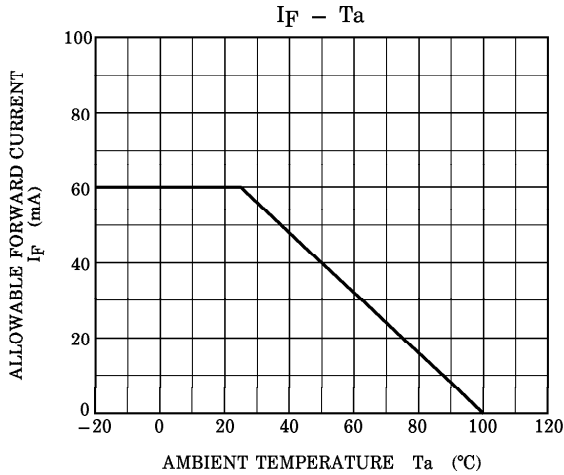
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
LED	Forward Voltage	$V_F$	$I_F = 60\text{mA}$	—	1.35	1.65	V	
	Reverse Current	$I_R$	$V_R = 3\text{V}$	—	—	10	$\mu\text{A}$	
	Capacitance	$C_D$	$V = 0, f = 1\text{MHz}$	—	30	—	pF	
PHOTO-TRANSISTOR	DC Forward Current Gain	$h_{FE}$	$V_{CE} = 5, I_C = 500\mu\text{A}$	100	200	—		
	Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_F = 0$	70	—	—	V	
	Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_F = 0$	70	—	—	V	
	Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	$I_E = 100\mu\text{A}, I_F = 0$	7	—	—	V	
	Collector Dark Current	$I_{CEO}$	$V_{CE} = 10\text{V}, I_F = 0$	—	1	50	nA	
	Collector Dark Current	$I_{CBO}$	$V_{CB} = 10\text{V}, I_F = 0$	—	0.1	20	nA	
	Collector-Emitter Capacitance	$C_{CE}$	$V = 0, f = 1\text{MHz}$	—	10	—	pF	
COUPLED	Current Transfer Ratio	CNY17-2	$I_F = 10\text{mA}, V_{CE} = 5\text{V}$	63	—	125	%	
		CNY17-3		CTR	100	—		200
		CNY17-4		160	—	320		
	Saturation Voltage	$V_{CE(sat)}$	$I_F = 10\text{mA}, I_C = 2.5\text{mA}$	—	—	0.4	V	
	Capacitance Input to Output	$C_S$	$V = 0, f = 1\text{MHz}$	—	0.8	—	pF	
	Isolation Resistance	$R_S$	$V = 500\text{V}$	—	$10^{11}$	—	$\Omega$	
	DC Isolation Voltage	$BV_S$	DC 1 minute	4400	—	—	V	
	Rise / Fall Time Photo Diode	$t_r / t_f$	$V_{CE} = 10\text{V}, I_C = 2\text{mA}$ $R_L = 100\Omega$	—	5	10	$\mu\text{s}$	
Rise / Fall Time Photo Diode	$t_r / t_f$	$V_{CB} = 10\text{V}, I_{CB} = 50\mu\text{A}$ $R_L = 100\Omega$	—	200	—	ns		

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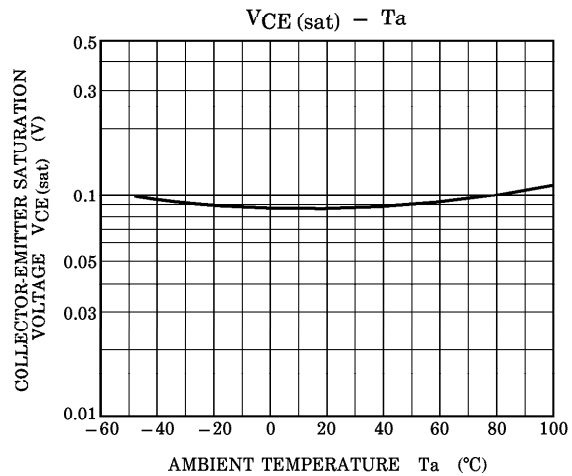
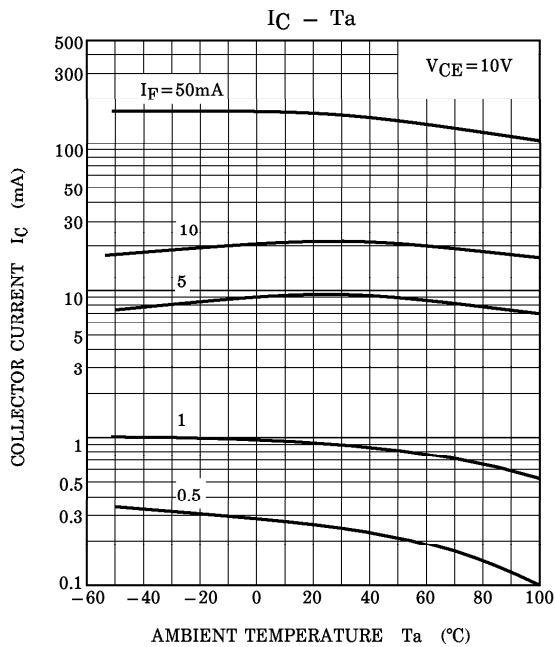
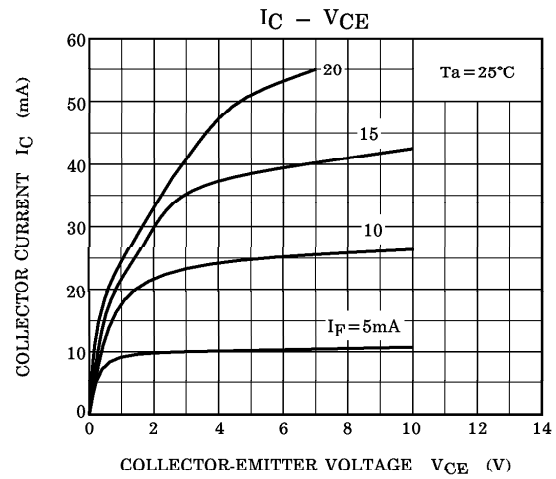
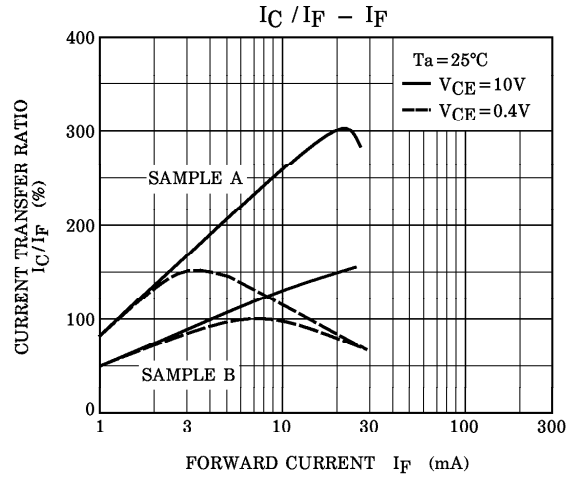
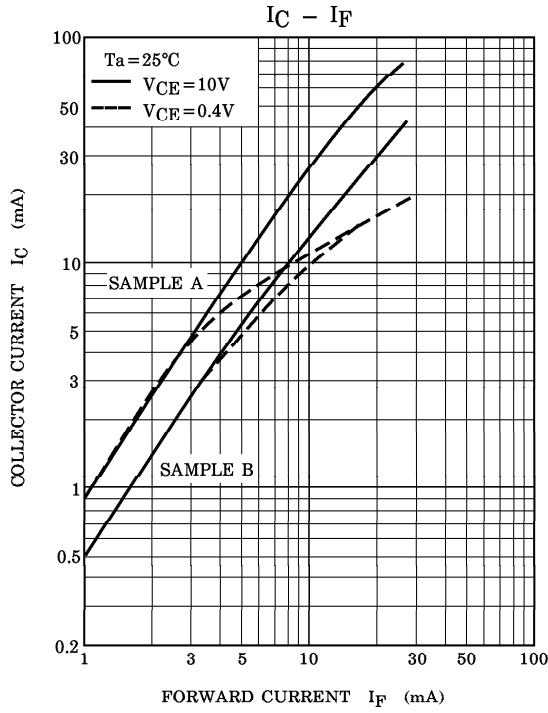
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