

TF 1203

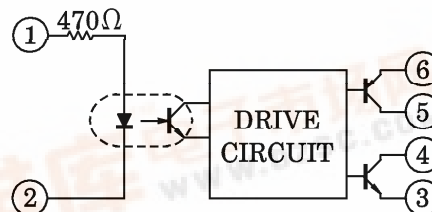
Unit in mm

- 2000V_{RMS} Optical Isolation
- Logic Compatible Input
- High Speed Switching Response
: $t_{pLH}=3\mu s$, $t_{pHL}=4\mu s$ (Typ.)
- Small Size and Light Weight

Weight : 5g

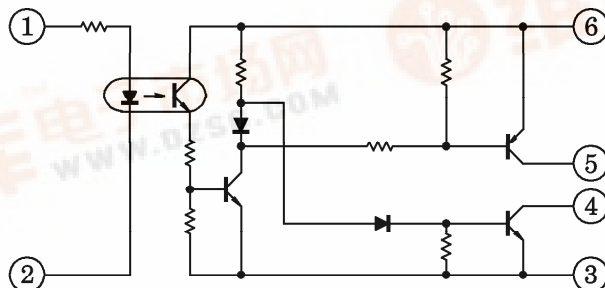
BLOCK DIAGRAM

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	6	V
	V _{EE}	−3	V
Input Voltage	V _{IN}	5.5	V
Reverse Input Voltage	V _{RIN}	5	V
High Level Output Current	I _{OH}	−0.5	A
Low Level Peak Output Current	I _{OLP}	1.5 (10μs)	A
Isolation (Input-Output)	BV _S / AC	2000 (1min)	V
Operating Frequency	f	5	kHz
Operating Temperature	T _{opr}	−20~70	°C
Storage Temperature	T _{stg}	−20~100	°C



1. INPUT(+)
2. INPUT(-)
3. OUTPUT 2(-) [V_{EE}]
4. OUTPUT 2(+)
5. OUTPUT 1(-)
6. OUTPUT 1(+)[V_{CC}]

CIRCUIT DIAGRAM



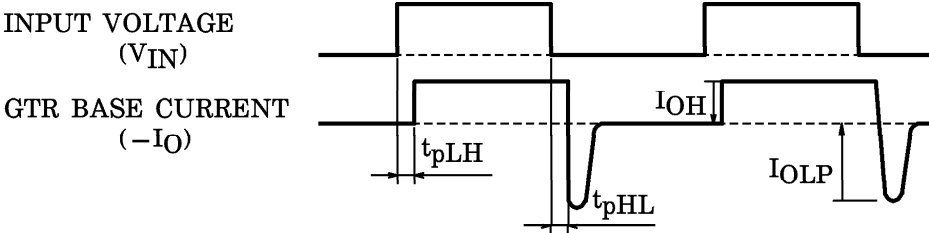
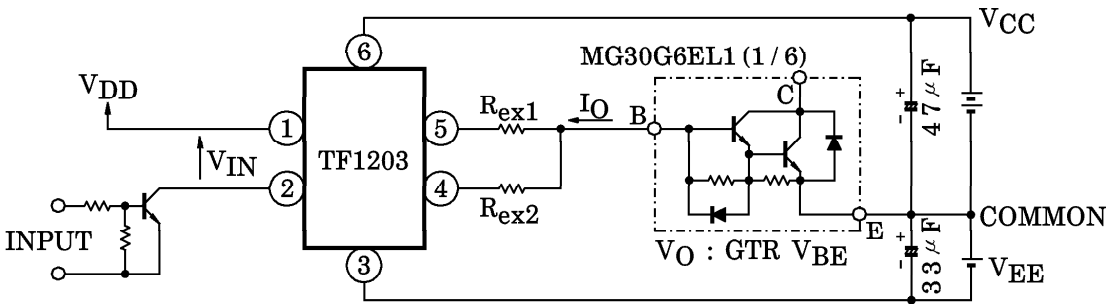
RECOMMENDED OPERATING CONDITIONS (Ta = - 10~50°C)

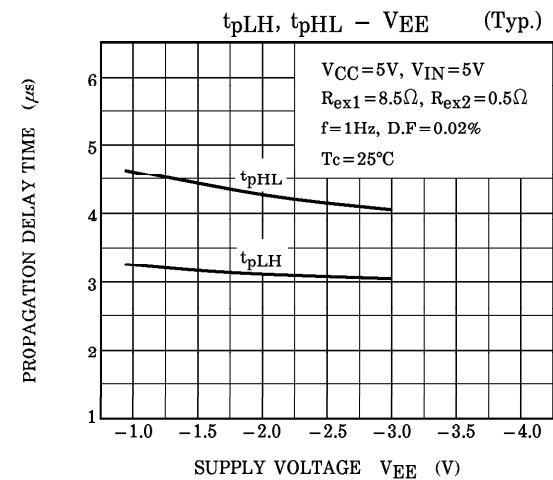
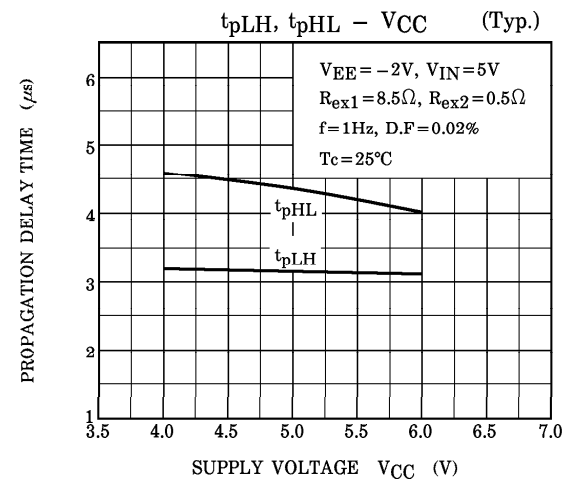
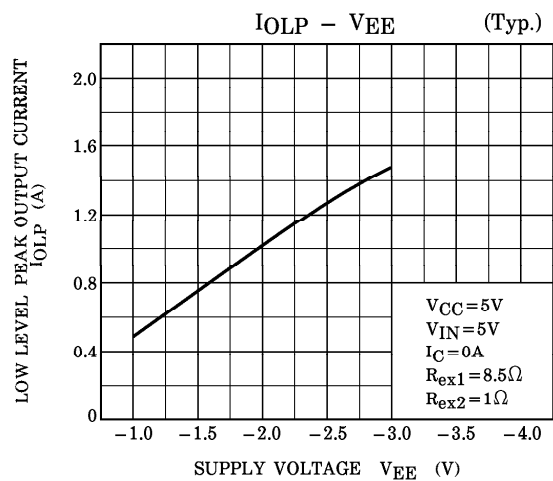
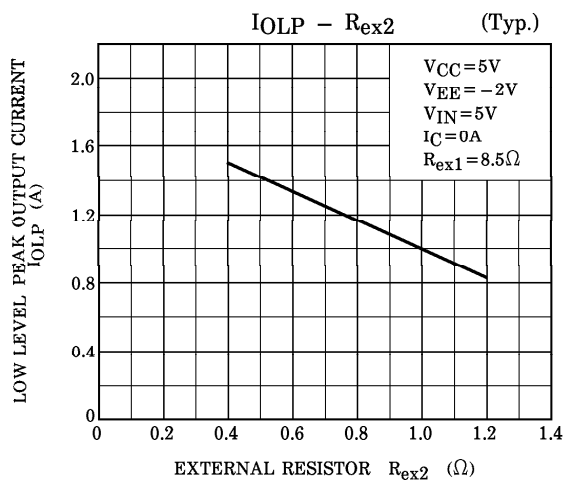
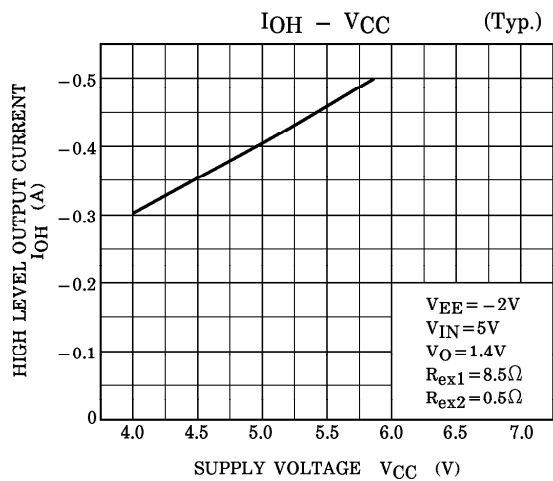
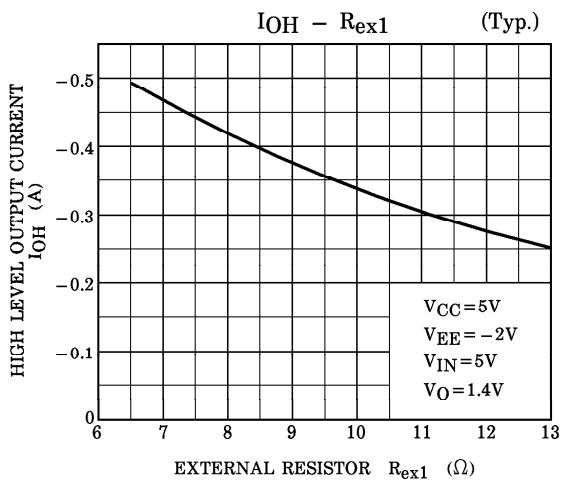
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V _{CC}	—	4.5	5.0	5.5	V
	V _{EE}	—	- 1.5	- 2	- 2.5	V
High Level Input Voltage	V _{IH}	—	—	5	—	V
External Resistor	R _{ex1}	—	—	8.5	—	Ω
	R _{ex2}	—	—	0.5	—	Ω
Operating Frequency	f	—	—	2	—	kHz

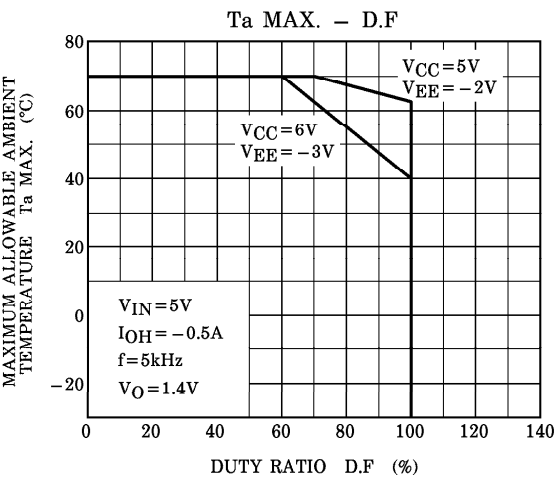
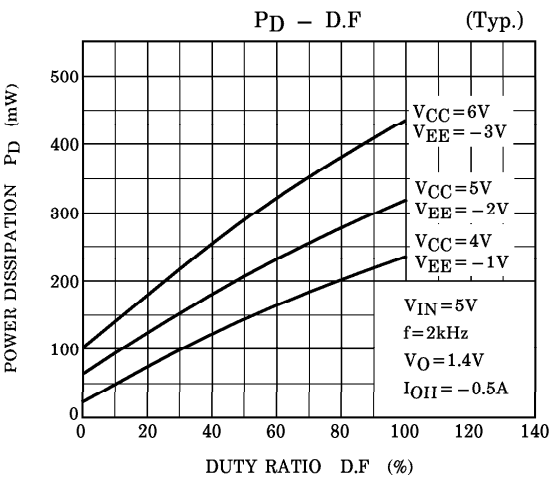
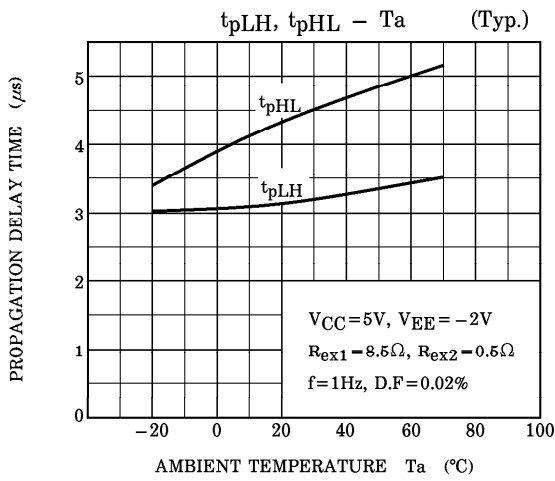
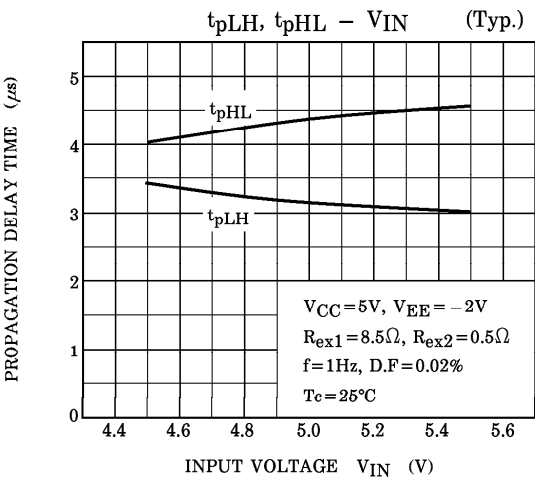
ELECTRICAL CHARACTERISTICS (Ta = 25°C, V_{CC} = 5V, V_{EE} = - 2V, R_{ex1} = 6.5Ω, R_{ex2} = 0.5Ω)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Current	I _{IN}	V _{IN} = 5V	7	8	9	mA
High Level Input Voltage	V _{IH}	I _{OH} = - 0.5A	—	2	4.5	V
Low Level Input Voltage	V _{IL}	I _{OLP} = 1.4A	1.0	2	—	V
High Level Output Current	I _{OH}	V _{IN} = 5V, V _O = 1.4V	—	- 0.5	—	A
Low Level Peak Output Current	I _{OLP}	V _{IN} = 0V	—	1.4	—	A
(Low→High) Propagation Delay Time	t _{pLH}	V _{IN} = 0→5V	—	3	10	μs
(High→Low) Propagation Delay Time	t _{pHL}	V _{IN} = 5→0V	—	4	10	μs
Power Dissipation	P _D	f = 2kHz, D.f = 50%	—	210	—	mW

TEST CIRCUIT



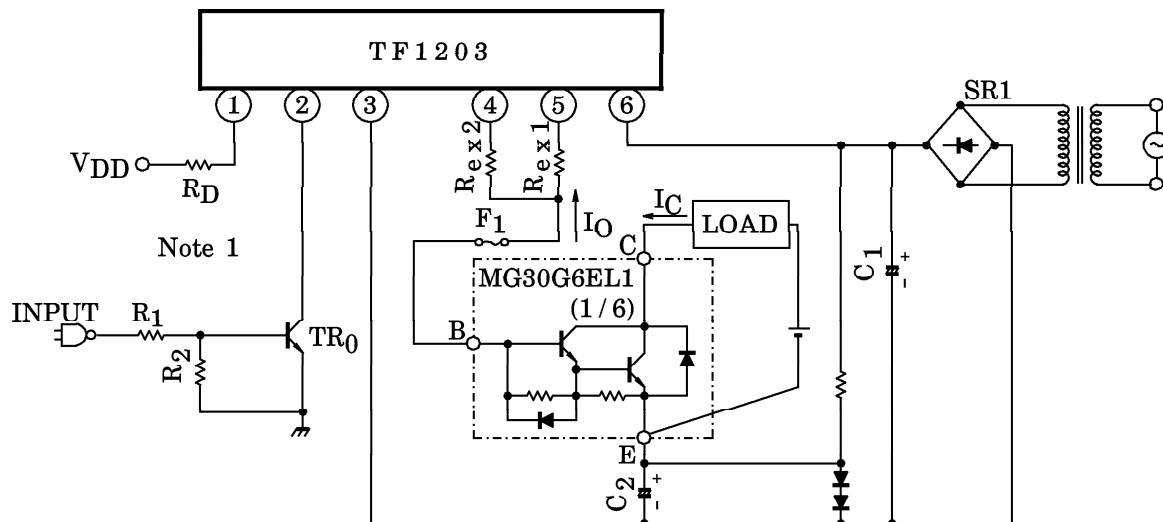




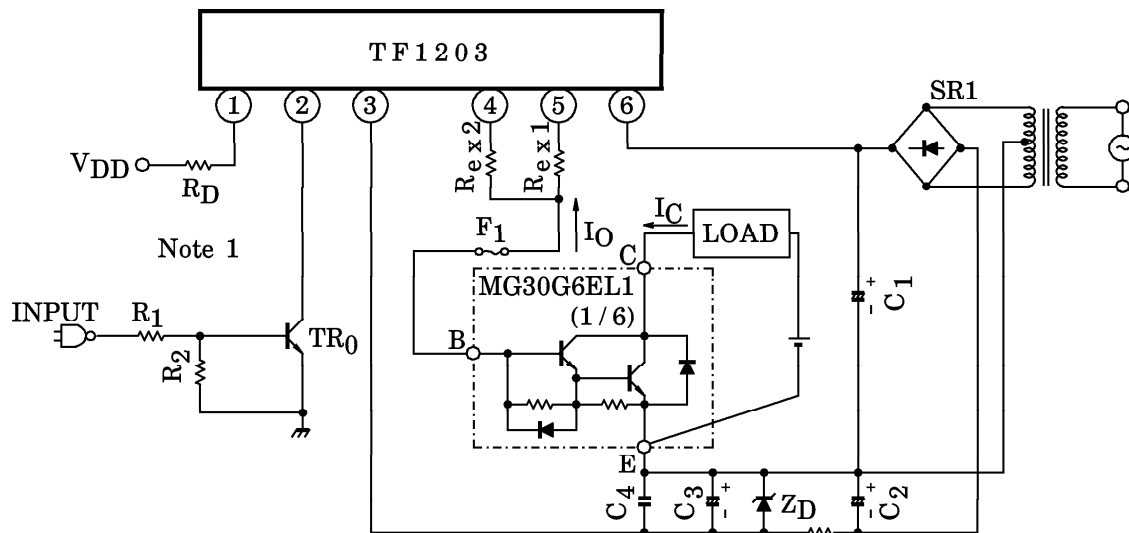
EXAMPLE OF APPLIED CIRCUIT

MG30G6EL1 BASE DRIVE CIRCUIT

(A) SINGLE SOURCE DRIVE



(B) DUAL SOURCE DRIVE



Note 1 : Insert an external resistor R_D in V_{DD} bias line when the power supply over 5.5V in used.

(Calculating Formula)

$$R_D = \frac{V_{DD} - V_F}{I_{IN}} - R_{IN}$$

V_F : Forward voltage of LED (≈ 1 [V])

R_{IN} : Input resistor (470 [Ω])

I_{IN} : Input current (8 [mA])