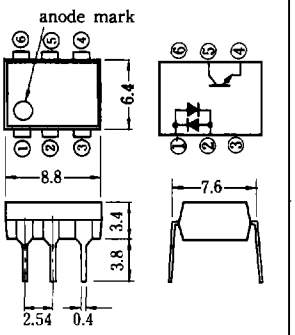
NJL5126D

New JRC NJL5126D is DIP AC photo coupler coupled with two high power infrared emitting diodes and a highly sensitive silicon photo transistor. It features possible AC input, fast response time, high current transfer ratio and easy mounting to the printed circuit boards. This device is suitable for use in applications such as detecting bell signal for phone call, interface and feedback loop system between microcomputer and each kind of controlling and actuating system (solenoid, relay, small motor etc.)

UL standards (File No. E82561)

Outline (typ) Unit : mm



①LED Input 1
② 〃 Input 2
③NC
④photo transistor emitter
⑤ 〃 〃 collector
⑥NC

■ Absolute Maximum Ratings (Ta=25°C)

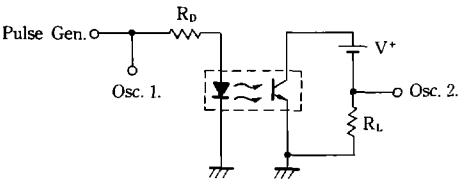
Emitter		
Forward Current (Continuous)	I_F	±70mA
Pulse Forward Current	I_{FP}	±1A (note 1)
Power Dissipation	P_D	100mW
Detector		
Collector-Emitter Voltage	V_{CEO}	3V
Emitter-Collector Voltage	V_{ECO}	6V
Collector Current	I_c	100mA
Collector Power Dissipation	P_c	150mW
Coupled		
Total Power Dissipation	P_{tot}	200mW
Isolation Voltage (note 2)	V_{iso}	4000V
Operating Temperature	T_{opr}	−20°C to +90°C
Storage Temperature	T_{stg}	−30°C to +100°C

(note 1) Pulse Width ≦100 μs, Duty Ratio: 0.01
(note 2) R.H.=40 to 60% for AC one minute

■ Electro-Optical Characteristics (Ta=25°C)

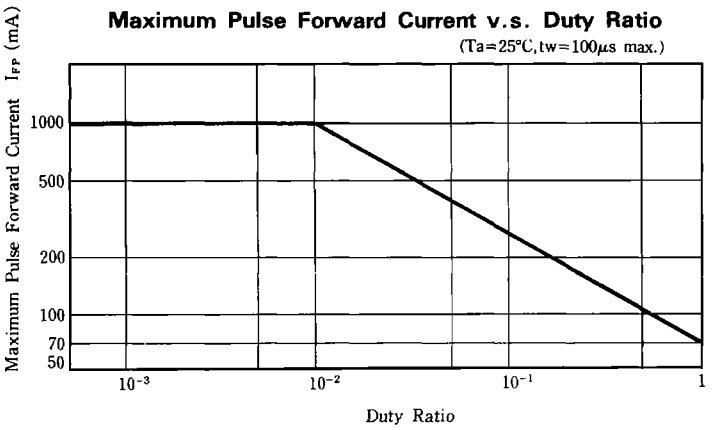
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Emitter						
Forward Voltage	V_F	I_F=±10mA	—	1.1	1.5	V
Pulse Forward Voltage	V_{FP}	I_{FP}=±1A	—	1.8	—	V
Capacitance	C_t	V_R=0V, f=1MHz	—	70	—	pF
Detector						
Dark Current	I_{CEO}	V_{CE}=5V	—	—	100	nA
Coupled						
Isolation Capacitance	C_f	V_R=0V, f=1MHz	—	0.6	—	pF
Collector-Emitter Saturation Voltage	V_{CE}(sat)	I_F=10mA, I_c=2mA	—	0.15	0.3	V
Current Transfer Ratio	C.T.R.	V_{CE}=5V, I_F=10mA	100	300	600	%
	CTR 1/CTR 2	V_{CE}=5V, I_F=10mA		1.5	6	
Delay Time	t_d	Test Circuit 1 V_{CE}=5V, I_c=2mA, R_L=100Ω	—	3	—	μs
Rise Time	t_r	Test Circuit 1 V_{CE}=5V, I_c=2mA, R_L=100Ω	—	5	—	μs
Fall Time	t_f	Test Circuit 1 V_{CE}=5V, I_c=2mA, R_L=100Ω	—	6	—	μs

■ **Test Circuit 1** **Test Circuit for Switching Time**

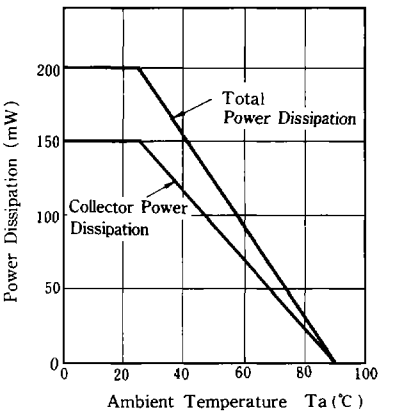


■ **Maximum Rating Curves**

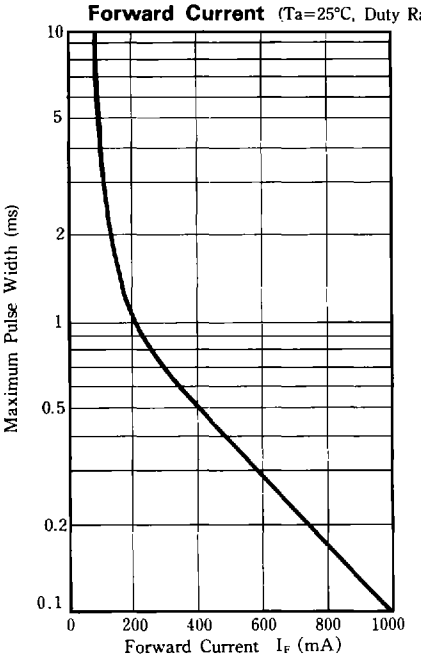
Maximum Pulse Forward Current v.s. Duty Ratio
(Ta=25°C, tw=100μs max.)



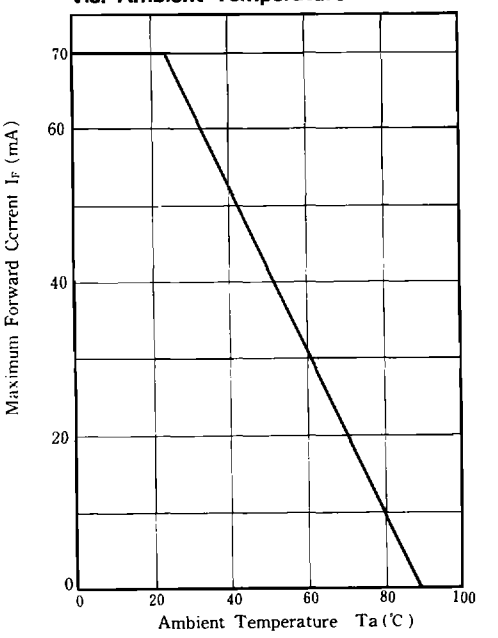
Power Dissipation v.s. Temperature



Maximum Pulse Width v.s. Forward Current (Ta=25°C, Duty Ratio 0.01 max.)

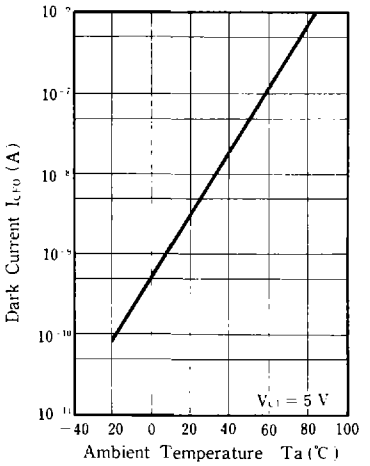


Maximum Continuous Forward Current v.s. Ambient Temperature

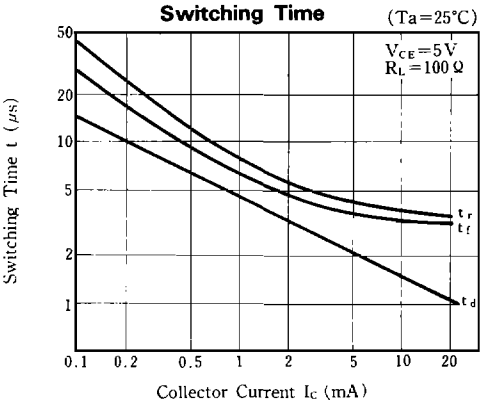


■ Typical Characteristics

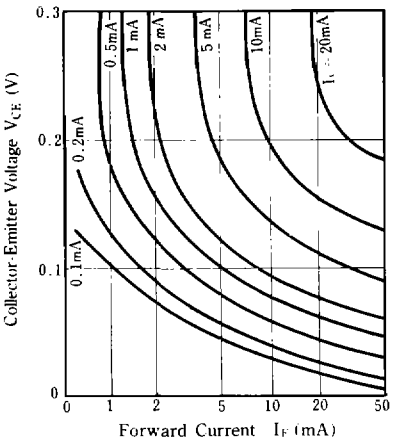
Dark Current v.s. Temperature



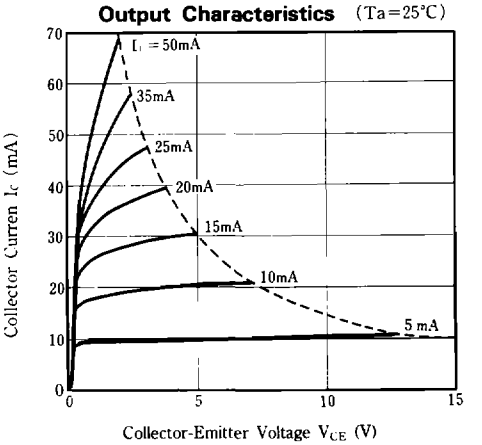
Switching Time (Ta=25°C)



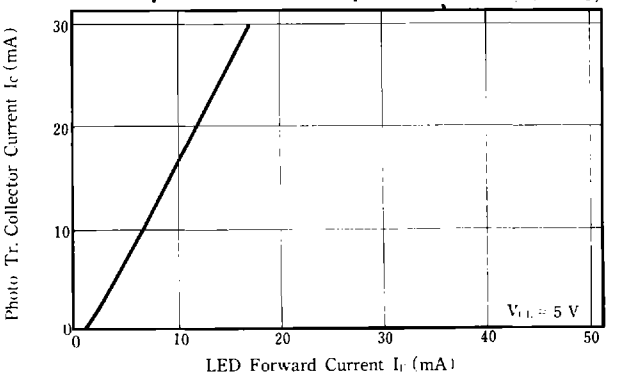
V_{CE} Saturation (Ta=25°C)



Output Characteristics (Ta=25°C)



Output Current v.s. Input Current (Ta=25°C)



Current Transfer Ratio v.s. Temperature