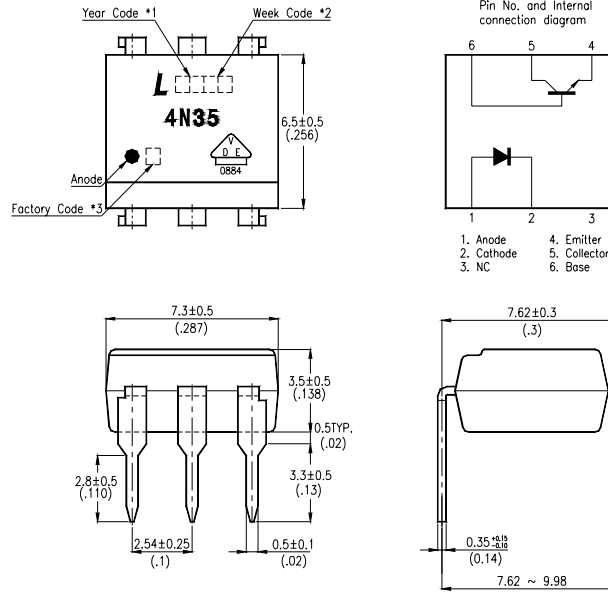


FEATURES

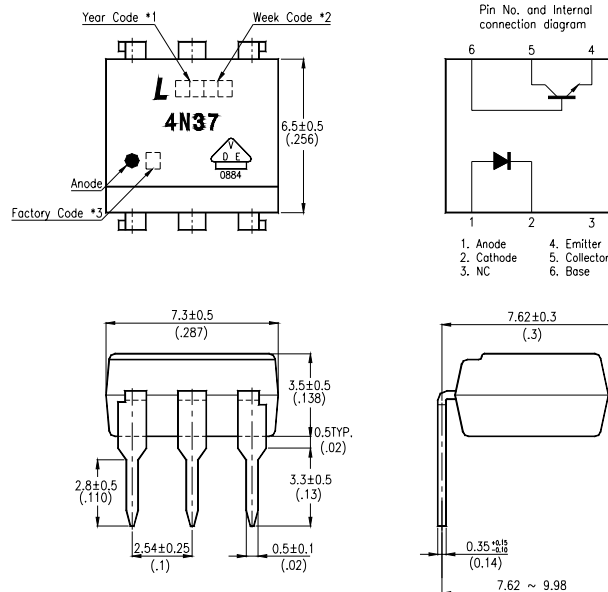
- * High current transfer ratio
(CTR : MIN. 100% at $I_F = 10\text{mA}$, $V_{CE} = 10\text{V}$)
- * Response time
(t_{on} : TYP. $3\mu\text{s}$ at $V_{CC} = 10\text{V}$, $I_C = 2\text{mA}$, $R_L = 100\Omega$)
- * Input-output isolation voltage
4N35-V series : $V_{iso} = 3,550\text{Vrms}$
4N37-V series : $V_{iso} = 1,500\text{Vrms}$
- * Dual-in-line package :
4N35-V, 4N37-V
- * Wide lead spacing package :
4N35M-V, 4N37M-V
- * Surface mounting package :
4N35S-V, 4N37S-V
- * Tape and reel packaging :
4N35STA1-V, 4N37STA1-V
- * UL approved (No. E113898)
- * TUV approved (No. R9653630)
- * VDE approved (No. 094722)
- * CSA approved (No. CA91533-1)
- * FIMKO approved (No. 193422)
- * NEMKO approved (No. P96103013)
- * DEMKO approved (No. 303985)
- * SEMKO approved (No. 9646047 / 01-30)

OUTLINE DIMENSIONS

4N35-V :



4N37 -V:



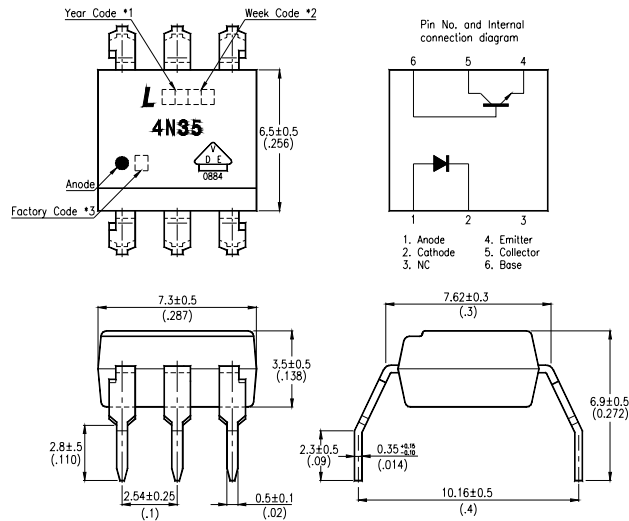
*1. Year date code.

*2. 2-digit work week.

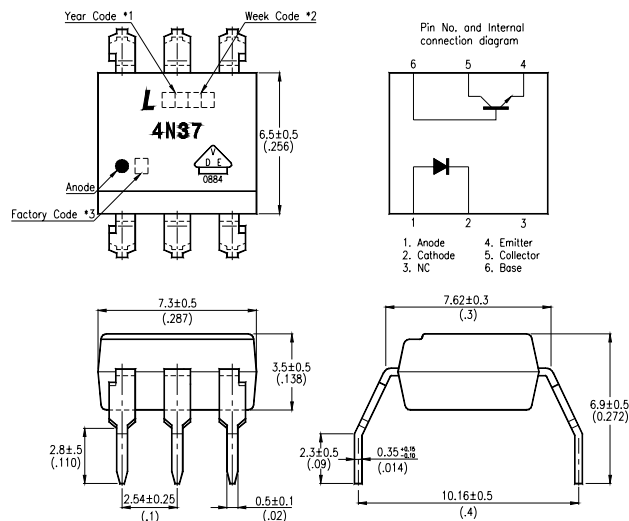
*3. Factory identification mark shall be marked(Z : Taiwan, Y : Thailand, X : China).

OUTLINE DIMENSIONS

4N35M-V :



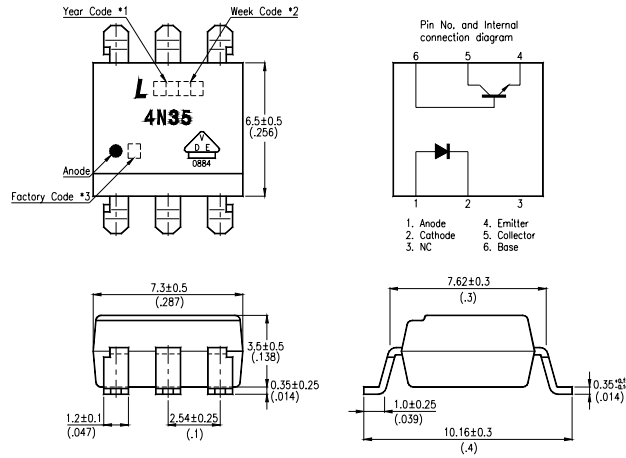
4N37M-V :



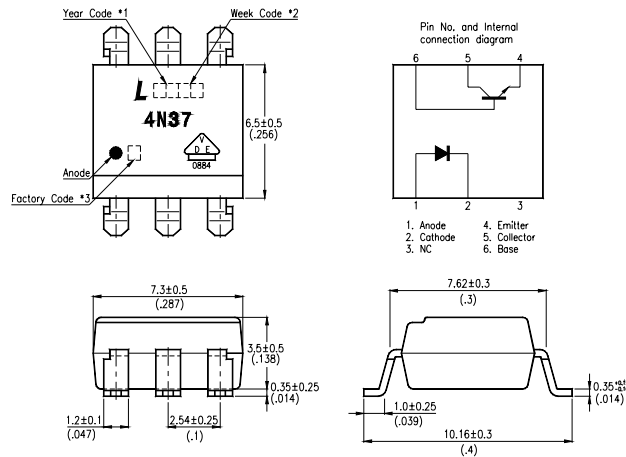
- *1. Year date code.
- *2. 2-digit work week.
- *3. Factory identification mark shall be marked (Z : Taiwan, Y : Thailand, X : China).

OUTLINE DIMENSIONS

4N35S-V :



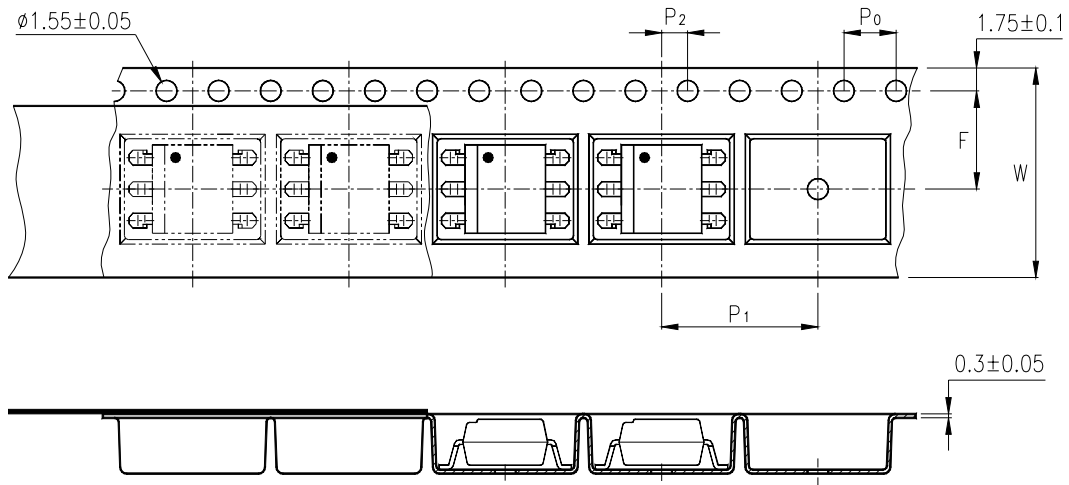
4N37S-V :



- *1. Year date code.
- *2. 2-digit work week.
- *3. Factory identification mark shall be marked (Z : Taiwan, Y : Thailand, X : China).

TAPING DIMENSIONS

4N35STA1-V , 4N37STA1-V :



Description	Symbol	Dimensions in mm (inches)
Tape wide	W	16 ± 0.3 (.63)
Pitch of sprocket holes	P ₀	4 ± 0.1 (.15)
Distance of compartment	F	7.5 ± 0.1 (.295)
	P ₂	2 ± 0.1 (.079)
Distance of compartment to compartment	P ₁	12 ± 0.1 (.472)

ABSOLUTE MAXIMUM RATING

(Ta = 25°C)

PARAMETER		SYMBOL	RATING	UNIT
INPUT	Forward Current	I _F	60	mA
	Reverse Voltage	V _R	6	V
	Power Dissipation	P	100	mW
OUTPUT	Collector - Emitter Voltage	V _{CEO}	30	V
	Emitter - Collector Voltage	V _{ECO}	7	V
	Collector - Base Voltage	V _{CBO}	70	V
	Collector Current	I _C	100	mA
	Collector Power Dissipation	P _C	300	mW
Total Power Dissipation		P _{tot}	350	mW
*1 Isolation Voltage	4N35-V series	V _{iso}	3,550	V _{rms}
	4N37-V series		1,500	
Operating Temperature		T _{opr}	-55 ~ +100	°C
Storage Temperature		T _{stg}	-55 ~ +150	°C
*2 Soldering Temperature		T _{sol}	260	°C

*1. AC For 1 Minute, R.H. = 40 ~ 60%

Isolation voltage shall be measured using the following method.

- (1) Short between anode and cathode on the primary side and between collector, emitter and base on the secondary side.
- (2) The isolation voltage tester with zero-cross circuit shall be used.
- (3) The waveform of applied voltage shall be a sine wave.

*2. For 10 Seconds

ELECTRICAL - OPTICAL CHARACTERISTICS

(Ta = 25°C)

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS	
INPUT	Forward Voltage	V _F	—	1.2	1.5	V	I _F =10mA	
	Reverse Current	I _R	—	—	10	μA	V _R =4V	
	Terminal Capacitance	C _t	—	50	—	pF	V=0, f=1KHz	
OUTPUT	Collector Dark Current	Ta=25°C	I _{CEO}	—	—	50	nA	V _{CE} =10V, I _F =0
		Ta=100°C	I _{CEO}	—	—	500	μA	V _{CE} =30V, I _F =0
	Collector-Emitter Breakdown Voltage	BV _{CEO}	30	—	—	V	I _C =0.1mA I _F =0	
	Emitter-Collector Breakdown Voltage	BV _{ECO}	7	—	—	V	I _E =10μA I _F =0	
	Collector-Base Breakdown Voltage	BV _{CBO}	70	—	—	V	I _C =0.1mA I _F =0	
TRANSFER CHARACTERISTICS	Collector Current	I _C	10	—	—	mA	I _F =10mA V _{CE} =10V	
	* Current Transfer Ratio	CTR	100	—	—	%		
	Collector-Emitter Saturation Voltage	V _{CE(sat)}	—	—	0.3	V	I _F =50mA I _C =2mA	
	Isolation Resistance	R _{iso}	5×10 ¹⁰	1×10 ¹¹	—	Ω	DC500V 40 ~ 60% R.H.	
	Floating Capacitance	C _f	—	1	2.5	pF	V=0, f=1MHz	
	Response Time (Turn-on)	t _{on}	—	3	10	μs	V _{CC} =10V, I _C =2mA R _L =100Ω	
	Response Time (Turn-off)	t _{off}	—	3	10	μs		

$$* \text{CTR} = \frac{I_C}{I_F} \times 100\%$$

CHARACTERISTICS CURVES

Fig. 1 Forward Current vs. Ambient Temperature

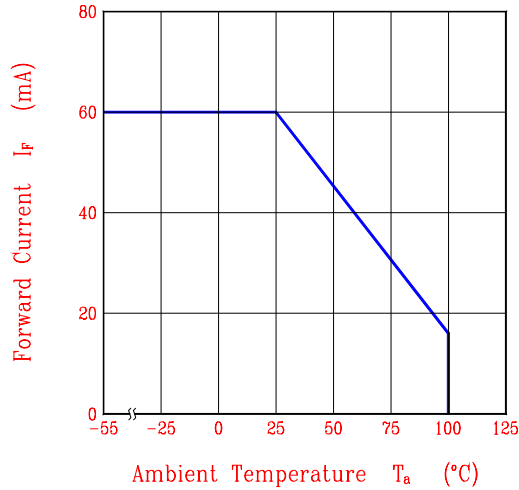


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

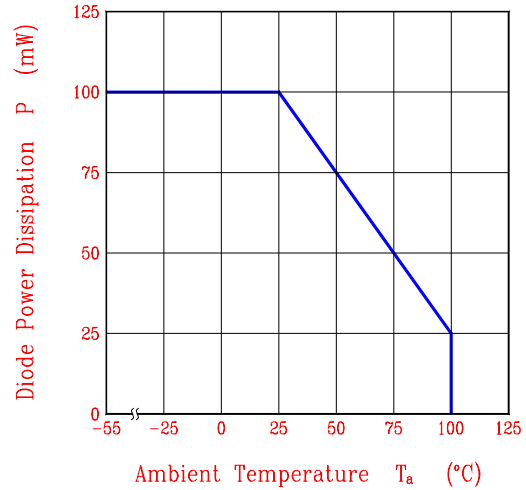


Fig. 3 Collector Power Dissipation vs. Ambient Temperature

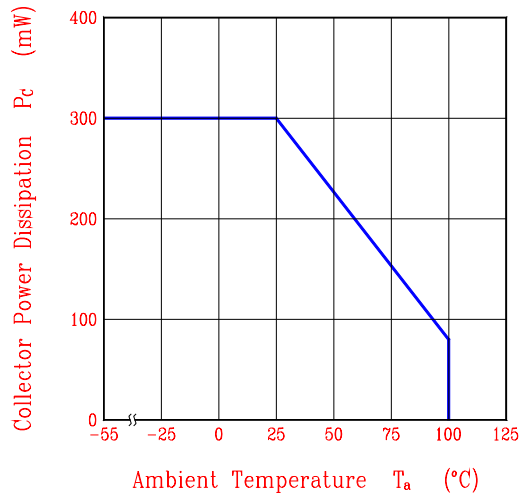
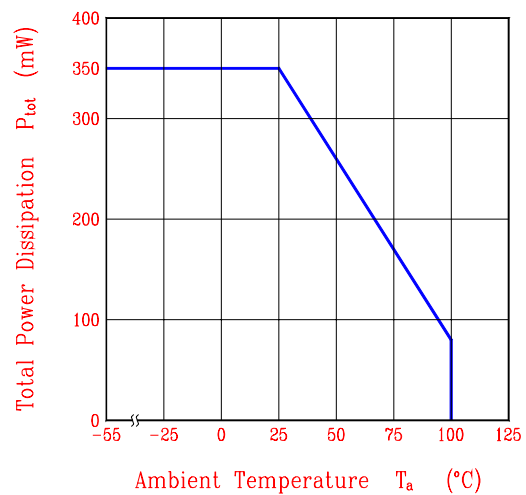
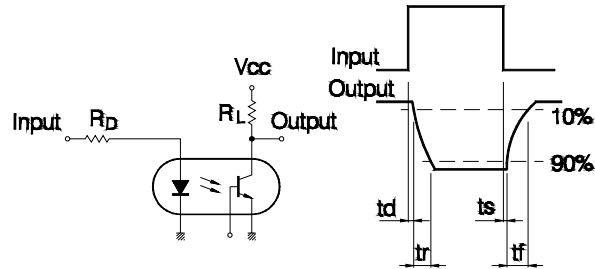


Fig. 4 Total Power Dissipation vs. Ambient Temperature



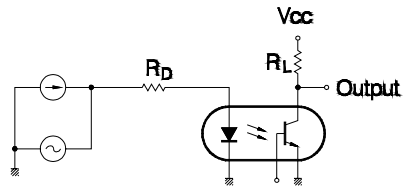
TEST CIRCUITS

Test Circuit for Response Time



$$t_{on} = t_d + t_r, \quad t_{off} = t_s + t_f.$$

Test Circuit for Frequency Response



RECOMMENDED FOOT PRINT PATTERNS (MOUNT PAD)

Unit : mm

