4N35X, 4N36X, 4N37X,
4N35, 4N36, 4N37,

OPTICALLY COUPLED ISOLATOR PHOTOTRANSISTOR OUTPUT

ROHS COMPLIANT

APPROVALS

- UL recognised, File No. E91231
  Package System " GG "

'X' SPECIFICATION APPROVALS

- VDE 0884 in 3 available lead forms : -
  - STD
  - G form
  - SMD approved to CECC 00802
-

DESCRIPTION

The 4N35, 4N36, 4N37 series of optically coupled isolators consist of infrared light emitting diode and NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

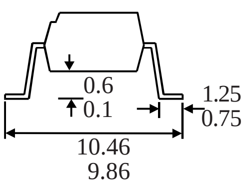
FEATURES

- Options :-
  10mm lead spread - add G after part no.
  Surface mount - add SM after part no.
  Tape&reel - add SMT&R after part no.
- High Current Transfer Ratio (100% min.)
- High Isolation Voltage (5.3kV$_{RMS}$,7.5kV$_{PK}$)
- All electrical parameters 100% tested
- Custom electrical selections available

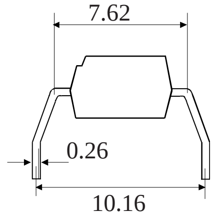
APPLICATIONS

- DC motor controllers
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances

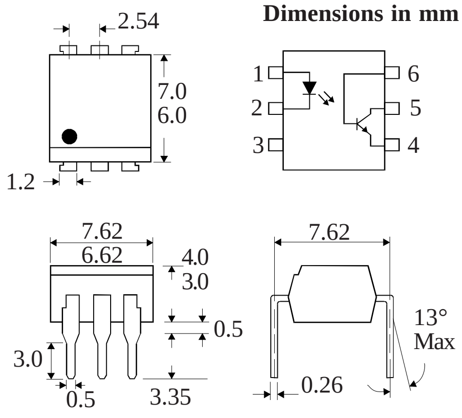
OPTION SM
SURFACE MOUNT



OPTION G



Dimensions in mm



ABSOLUTE MAXIMUM RATINGS
(25°C unless otherwise specified)

Storage Temperature	-55°C to + 150°C
Operating Temperature	-55°C to + 100°C
Lead Soldering Temperature (1/16 inch (1.6mm) from case for 10 secs)	260°C

INPUT DIODE

Forward Current	60mA
Reverse Voltage	6V
Power Dissipation	105mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV$_{CEO}$	30V
Collector-base Voltage BV$_{CBO}$	70V
Emitter-collector Voltage BV$_{ECO}$	6V
Collector Current	50mA
Power Dissipation	160mW

POWER DISSIPATION

Total Power Dissipation (derate linearly 2.67mW/°C above 25°C)	200mW

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Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, Cleveland, TS25

ELECTRICAL CHARACTERISTICS (T_A= 25°C Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	I_F = 10mA
	Reverse Current (I_R)			10	μA	V_R =6V
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	30			V	I_C = 1mA
	Collector-base Breakdown (BV_{CBO})	70			V	I_C = 100μA
	Emitter-collector Breakdown (BV_{ECO})	6			V	I_E = 10μA
	Collector-emitter Dark Current (I_{CEO})			50	nA	V_{CE} = 10V
Coupled	Current Transfer Ratio (CTR)	100			%	10mA I_F , 10V V_{CE}
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.3	V	10mA I_F , 0.5mA I_C
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	See note 1
		7500			V_{PK}	See note 1
	Input-output Isolation Resistance R_{ISO}	$5x10^{10}$			Ω	V_{IO} = 500V (note 1)
	Output Rise Time tr		2		μs	V_{CC} = 5V , I_F = 10mA
	Output Fall Time tf		2		μs	R_L = 75Ω (FIG 1)

Note 1 Measured with input leads shorted together and output leads shorted together.
Note 2 Special Selections are available on request. Please consult the factory.

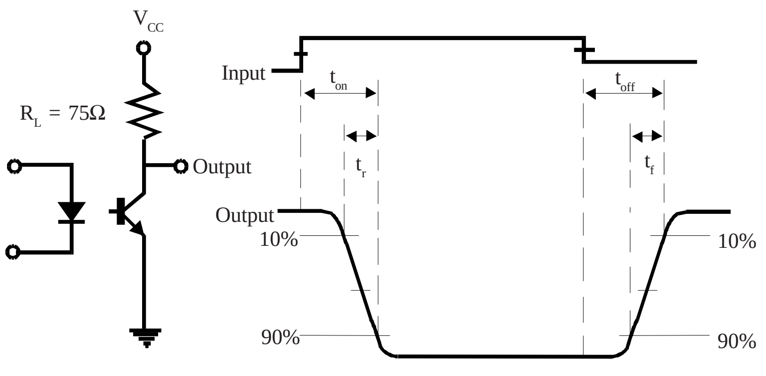
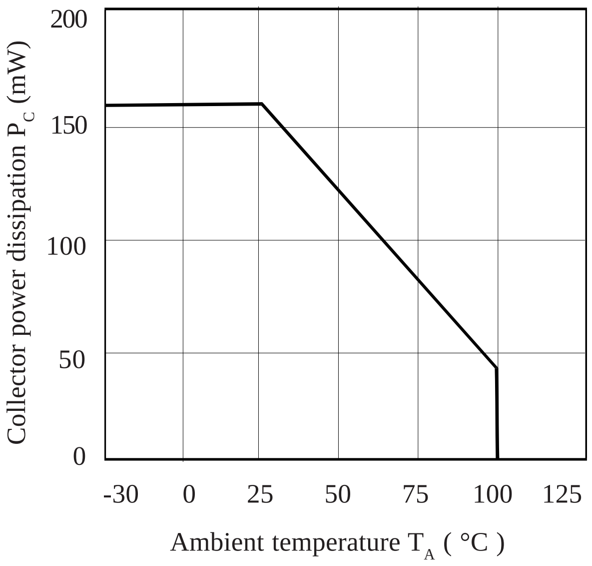
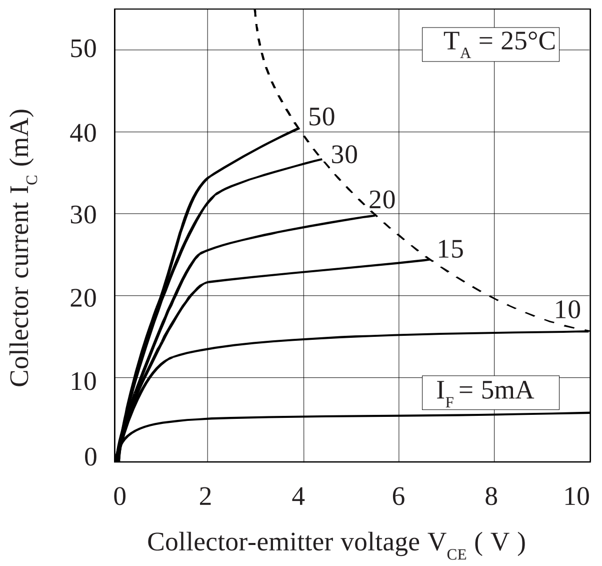


FIG 1

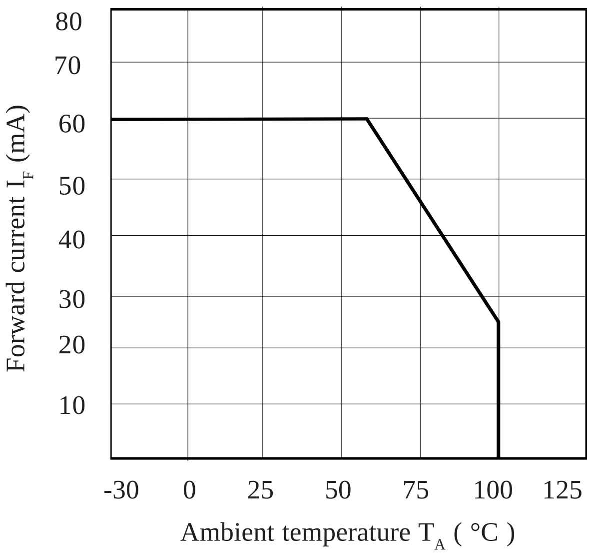
Collector Power Dissipation vs. Ambient Temperature



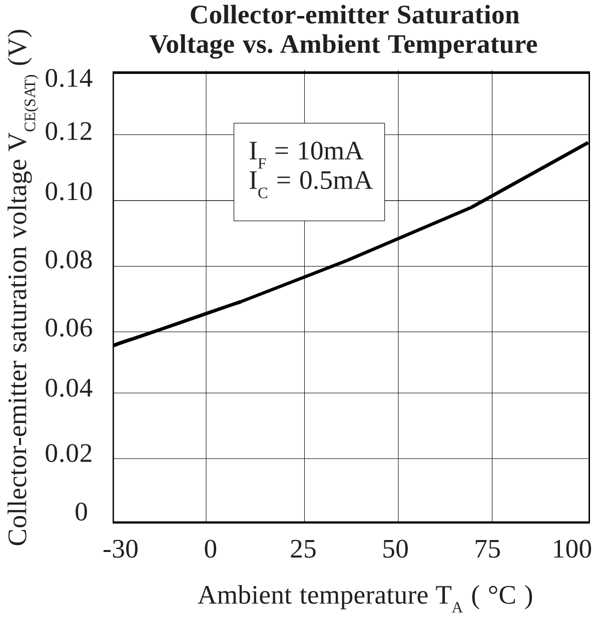
Collector Current vs. Collector-emitter Voltage



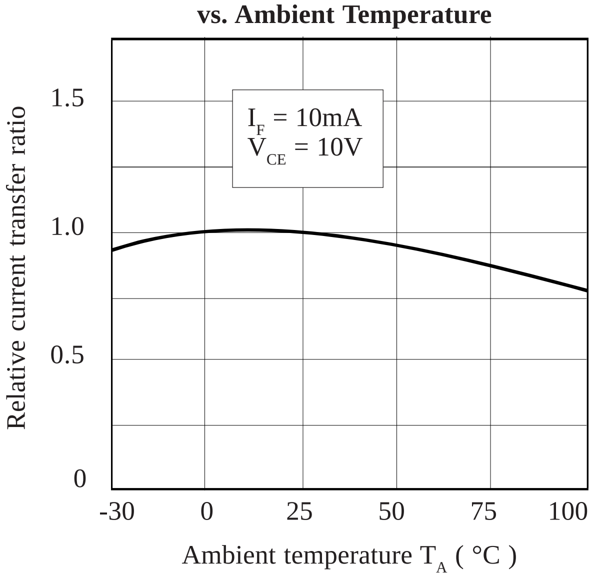
Forward Current vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature



Relative Current Transfer Ratio vs. Ambient Temperature



Relative Current Transfer Ratio vs. Forward Current