IS357

HIGH DENSITY MOUNTING PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

ISOCOM COMPONENTS

ROHS COMPLIANT

DESCRIPTION

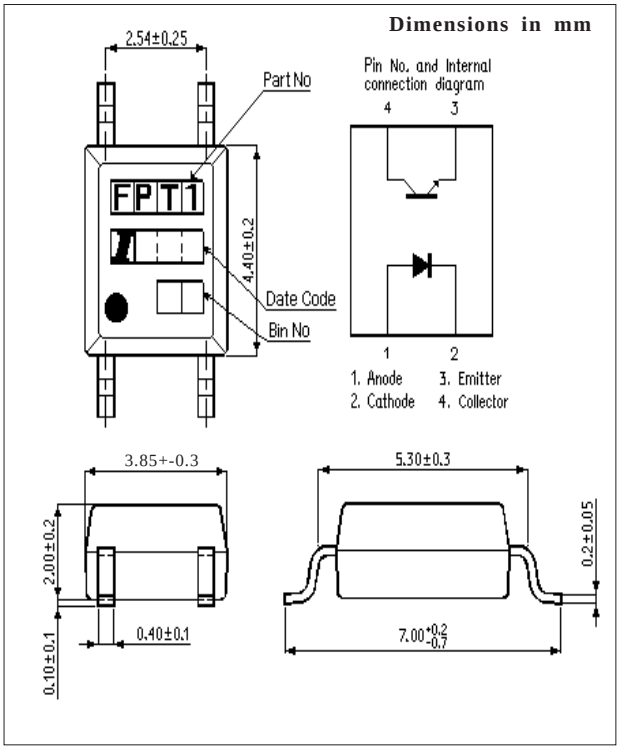
The IS357 is an optically coupled isolator consisting of an infrared light emitting diode and NPN silicon photo transistor in a space efficient dual in line plastic package.

FEATURES

- Marked as FPT1.
- Current Transfer Ratio MIN. 50%
- Isolation Voltage ($3.75kV_{RMS}$, $5.3kV_{PK}$)
- All electrical parameters 100% tested
- Drop in replacement for Sharp PC357

APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances



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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	50mA
Reverse Voltage	6V
Power Dissipation	70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	35V
Emitter-collector Voltage BV_{ECO}	6V
Collector Current	50mA
Power Dissipation	150mW

POWER DISSIPATION

Total Power Dissipation	170mW
(derate linearly 2.26mW/°C above 25°C)	

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

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.4	V	I_F = 20mA
	Reverse Current (I_R)			10	µA	V_R = 4V
Output	Collector-emitter Breakdown (BV_{CEO})	35			V	I_C = 0.5mA
	Emitter-collector Breakdown (BV_{ECO})	6			V	I_E = 0.1mA
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 20V
Coupled	Current Transfer Ratio (CTR)	50		600	%	5mA I_F, 5V V_{CE}
	Optional CTR Grades: IS357A	80		160	%	5mA I_F, 5V V_{CE}
	IS357B	130		260	%	5mA I_F, 5V V_{CE}
	IS357C	200		400	%	5mA I_F, 5V V_{CE}
	IS357D	300		600	%	5mA I_F, 5V V_{CE}
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.2	V	20mA I_F, 1.0mA I_C
	Input to Output Isolation Voltage V_{ISO}	3750			V_{RMS}	See note 1
		5300			V_{PK}	See note 1
	Input-output Isolation Resistance R_{ISO}	$5x10^{10}$			Ω	V_{IO} = 500V (note 1)
	Output Rise Time tr		4	18	µs	V_{CE} = 2V,
	Output Fall Time tf		3	18	µs	I_C = 2mA, R_L = 100Ω

Note 1 Measured with input leads shorted together and output leads shorted together.