



HIGH DENSITY MOUNTING PHOTODARLINGTON OPTICALLY COUPLED ISOLATORS

DESCRIPTION

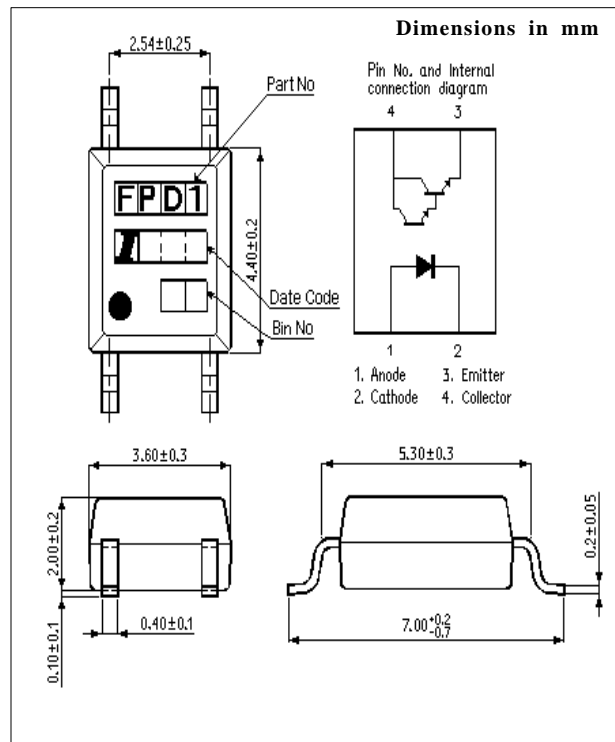
The IS355 is an optically coupled isolator consisting of an infrared light emitting diode and NPN silicon photodarlington in a space efficient dual in line plastic package.

FEATURES

- Marked as FPD1.
- Current Transfer Ratio MIN. 600%
- Isolation Voltage (3.75kV_{RMS}, 5.3kV_{PK})
- All electrical parameters 100% tested
- Drop in replacement for Sharp PC355

APPLICATIONS

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



ISOCOM COMPONENTS LTD
Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, Cleveland, TS25 1YD
Tel: (01429) 863609 Fax : (01429) 863581

ISOCOM INC
1024 S. Greenville Ave, Suite 240,
Allen, TX 75002 USA
Tel: (214) 495-0755 Fax: (214) 495-0901
e-mail info@isocom.com
http://www.isocom.com

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 |
| Power Dissipation | 150mW |

POWER DISSIPATION

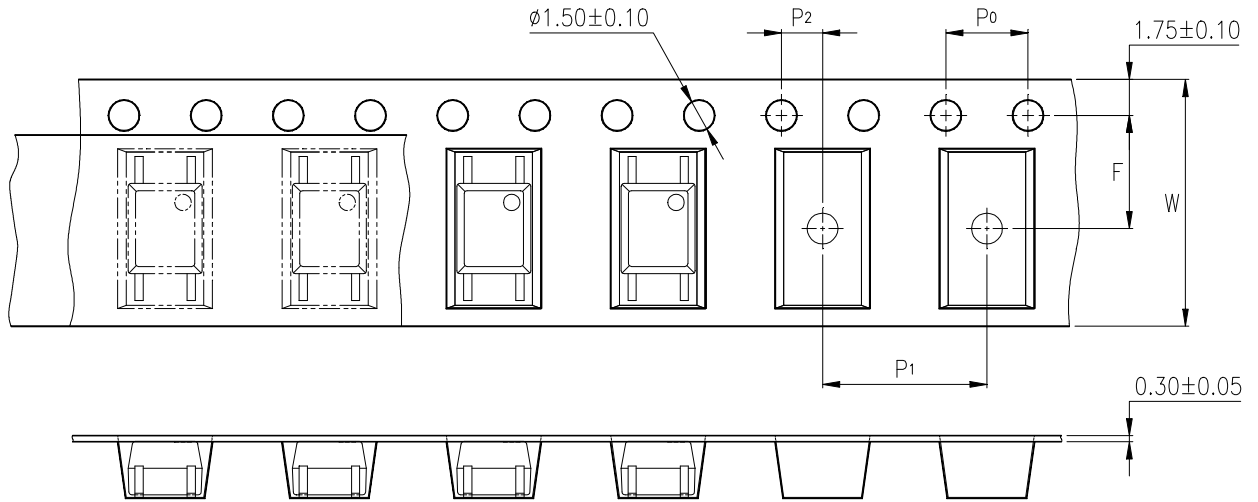
| | |
|----------------------------------------|-------|
| Total Power Dissipation | 170mW |
| (derate linearly 2.26mW/°C above 25°C) | |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

| PARAMETER | | MIN | TYP | MAX | UNITS | TEST CONDITION |
|------------------------|----------------------------------------------------|--------------------|-----|---------------|-------------------------------------|--------------------------------------|
| Input | Forward Voltage (V_F) | | 1.2 | 1.4 | V | $I_F = 20\text{mA}$ |
| | Reverse Voltage (V_R) | 5 | | | V | $I_R = 10\mu\text{A}$ |
| | Reverse Current (I_R) | | | 10 | μA | $V_R = 4\text{V}$ |
| Output | Collector-emitter Breakdown (BV_{CEO}) | 35 | | | V | $I_C = 0.1\text{mA}$ |
| | Emitter-collector Breakdown (BV_{ECO}) | 6 | | | V | $I_E = 10\mu\text{A}$ |
| | Collector-emitter Dark Current (I_{CEO}) | | | 1 | μA | $V_{CE} = 10\text{V}$ |
| Coupled | Current Transfer Ratio (CTR) | 600 | | 7500 | % | $1\text{mA } I_F, 2\text{V } V_{CE}$ |
| | Collector-emitter Saturation Voltage $V_{CE(SAT)}$ | | | 1 | V | $20\text{mA } I_F, 1\text{mA } I_C$ |
| | Input to Output Isolation Voltage V_{ISO} | 3750 5300 | | | V_{RMS} V_{PK} | See note 1 See note 1 |
| | Input-output Isolation Resistance R_{ISO} | 5×10^{10} | | | Ω | $V_{IO} = 500\text{V}$ (note 1) |
| | Output Rise Time t_r | | 4 | 18 | μs | $V_{CE} = 2\text{V}$, |
| Output Fall Time t_f | | 3 | 18 | μs | $I_C = 2\text{mA}, R_L = 100\Omega$ | |

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

TAPING DIMENSIONS



| Description | Symbol | Dimensions in mm (inches) |
|----------------------------------------|--------|-----------------------------|
| Tape wide | W | 12 ± 0.3 (.47) |
| Pitch of sprocket holes | P_0 | 4 ± 0.1 (.15) |
| Distance of compartment | F | 5.5 ± 0.1 (.217) |
| | P_2 | 2 ± 0.1 (.079) |
| Distance of compartment to compartment | P_1 | 8 ± 0.1 (.315) |

CHARACTERISTIC CURVES

Fig.1 Forward Current vs. Ambient Temperature

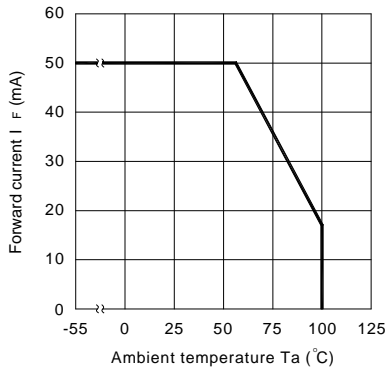


Fig.2 Collector Power Dissipation vs. Ambient Temperature

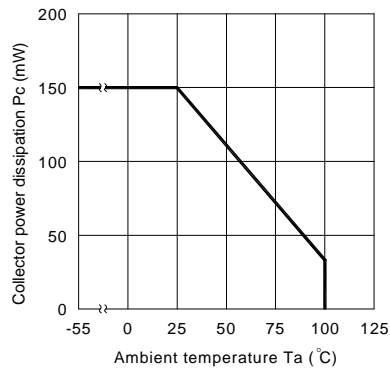


Fig.3 Collector-emitter Saturation Voltage vs. Forward Current

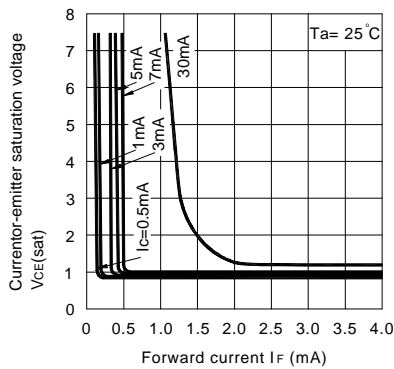


Fig.4 Forward Current vs. Forward Voltage

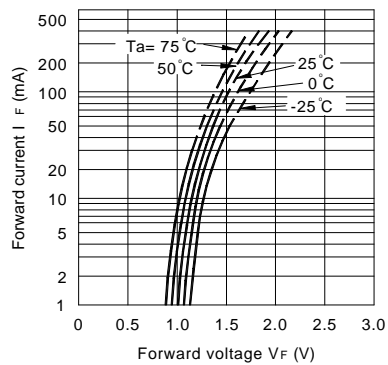


Fig.5 Current Transfer Ratio vs. Forward Current

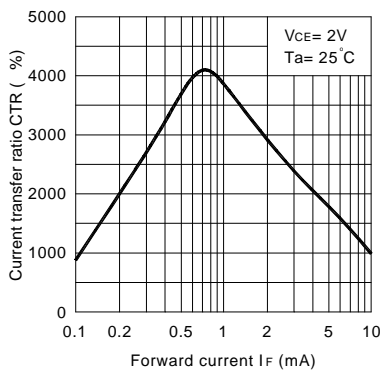
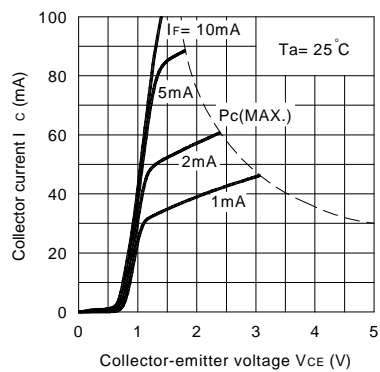


Fig.6 Collector Current vs. Collector-emitter Voltage



CHARACTERISTIC CURVES

Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

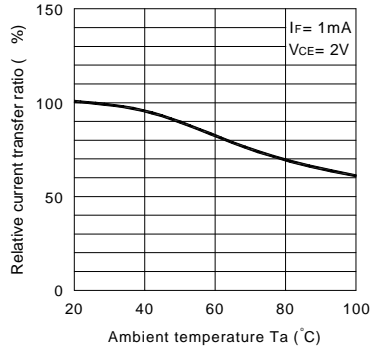


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

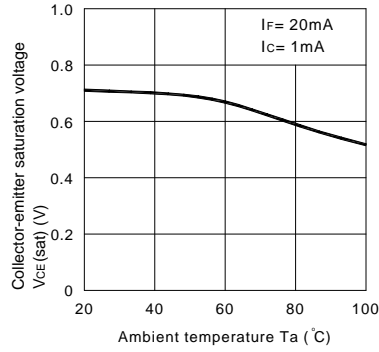


Fig.9 Collector Dark Current vs. Ambient Temperature

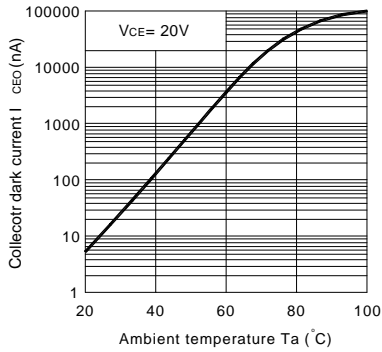


Fig.10 Response Time vs. Load Resistance

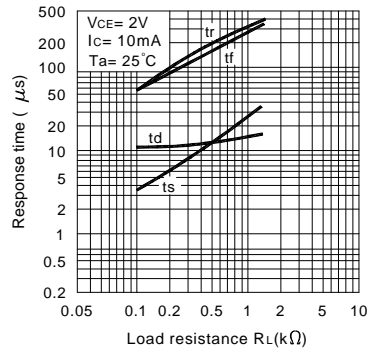
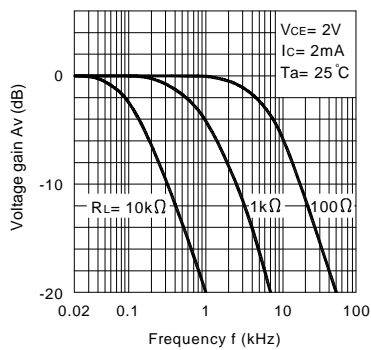
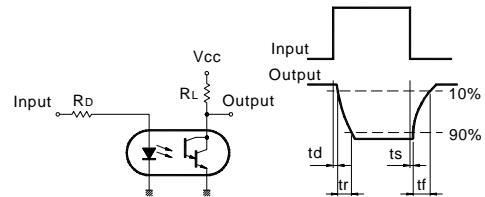


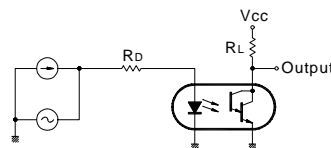
Fig.11 Frequency Response



Test Circuit for Response Time

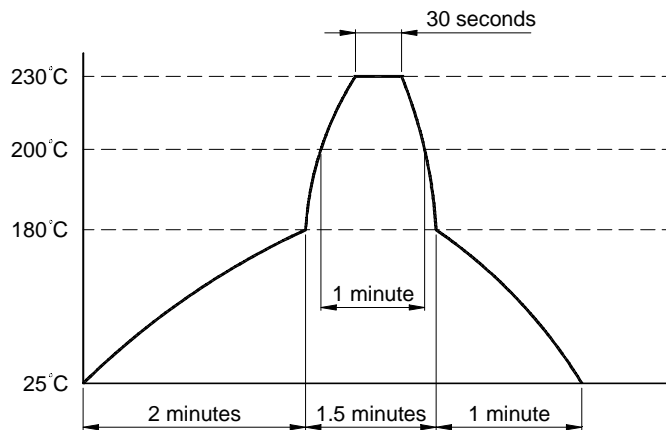


Test Circuit for Frequency Response



TEMPERATURE PROFILE OF SOLDERING REFLOW

- (1) One time soldering reflow is recommended within the condition of temperature and time profile shown below.



- (2) When using another soldering method such as infrared ray lamp, the temperature may rise partially in the mold of the device. Keep the temperature on the package of the device within the condition of above (1).

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET Output Optocouplers](#) category:

Click to view products by [Isocom](#) manufacturer:

Other Similar products are found below :

[TLP3131\(F\)](#) [TLP598GAF](#) [CPC2014NTR](#) [TLP4026G\(F\)](#) [LTV-817S-B](#) [CPC2017NTR](#) [TLP152\(TPL,E\(T](#) [PS2505L-4-E3-A](#) [TLP3106A\(TP,F](#)
[TLP3107A\(F](#) [TLP3106A\(F](#) [TLP4176A\(F](#) [TLP3149\(F](#) [TLP3147\(F](#) [TLP3145\(F](#) [TLP3146\(F](#) [TLP3149\(TP,F](#) [H11AV1XSM](#) [CNY17-1-000E](#)
[CNY17-1-300E](#) [CNY17-1S](#) [CNY17-2-000E](#) [CNY17-2S](#) [CNY173SR2VM](#) [CNY17-4-000E](#) [HCPL-181-06DE](#) [HCPL-J312-000E](#) [LTV-3120S-](#)
[TA1](#) [LTV-817-L](#) [LTV-817M-D](#) [LTV-817S-A](#) [TIL111](#) [TIL191](#) [MCT6X](#) [MCT6XSM](#) [TLP170A\(F\)](#) [TLP170G\(F\)](#) [TLP197GA\(F\)](#)
[TLP197G\(TP,F\)](#) [TLP222A-2\(LF1,F\)](#) [TLP291\(GR-TP.E\(O](#) [TLP597A\(F\)](#) [TLP797J\(F\)](#) [4N35X](#) [4N35XSM](#) [MOC213M](#) [HMHA2801R2](#)
[ILD1XSM](#) [ILQ2X](#) [IS357A](#)