



DESCRIPTION

The IS20*, ISD20*, ISQ20* series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages.

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 Isolation Voltage (5.3kVRMS ,7.5kVPK) High BVCEO (70V min)
- All electrical parameter 100% tested
- Custom electrical selections available
- UL recognised, File No. E91231 Package Code " GG " or " FF "
- VDE 0884 in 3 available lead form : -- STD - G form - SMD approved to CECC 00802
- IS20* Certified to EN60950 by :- Nemko - Certificate No. P01102464

APPLICATIONS

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

ORDER INFORMATION

- Available in Tape & Reel with 3000 pieces per reel

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

Stresses exceeding the absolute maximum ratings can cause permanent damage to the device.

Exposure to absolute maximum ratings for long periods of time can adversely affect reliability.

Input

| | |
|-------------------|------|
| Forward Current | 50mA |
| Reverse Voltage | 6V |
| Power dissipation | 70mW |

Output

| | |
|--|-------|
| Collector to Emitter Voltage BV _{CEO} | 70V |
| Emitter to Collector Voltage BV _{ECO} | 6V |
| Collector Current | 50mA |
| Power Dissipation | 150mW |

Total Package

| | |
|----------------------------------|----------------|
| Total Power Dissipation | 170mW |
| Operating Temperature | -25°C - 100°C |
| Storage Temperature | -40°C - 125°C |
| Lead Soldering Temperature (10s) | 260°C (10 Sec) |

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ISD201, ISD202, ISD203

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

INPUT

| Parameter | Symbol | Test Condition | Min | Typ.* | Max | Unit |
|-----------------|--------|---------------------|-----|-------|------|---------------|
| Forward Voltage | V_F | $I_F = 50\text{mA}$ | | 1.2 | 1.65 | V |
| Reverse Current | I_R | $V_R = 4\text{V}$ | | | 10 | μA |

OUTPUT

| Parameter | Symbol | Test Condition | Min | Typ.* | Max | Unit |
|-------------------------------------|------------|------------------------|-----|-------|-----|------|
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C = 1\text{mA}$ | 70 | | | V |
| Emitter-Collector Breakdown Voltage | BV_{ECO} | $I_E = 100\mu\text{A}$ | 6 | | | V |
| Collector-Emitter Dark Current | I_{CEO} | $V_{CE} = 10\text{V}$ | | | 50 | nA |

COUPLED

| Parameter | Symbol | Test Condition | Min | Typ.* | Max | Unit |
|--------------------------------------|---------------|---|--------------------|-------|-----|---------------|
| Current Transfer Ratio | CTR | 10mA, I_F 10V V_{CE} 1mA, I_F 10V V_{CE} | 75 10 | | | % |
| | | 10mA, I_F 10V V_{CE} 1mA, I_F 10V V_{CE} | 125 30 | | 250 | |
| | | 10mA, I_F 10V V_{CE} 1mA, I_F 10V V_{CE} | 210 45 | | 450 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_F = 10\text{mA}$, $I_F = 2\text{mA}$ I_C | | 0.2 | 0.4 | V |
| Input-output Isolation Resistance | R_{ISO} | $V_{10} = 500\text{V}$ | 5×10^{10} | | | Ω |
| Output Turn on Time | t_{ON} | $I_F = 10\text{mA}$ $V_{CE} = 5\text{V}$ $R_L = 75\Omega$ | | 3 | | μs |
| Output Turn off Time | t_{OFF} | | | 2.5 | | μs |

ISD201, ISD202, ISD203

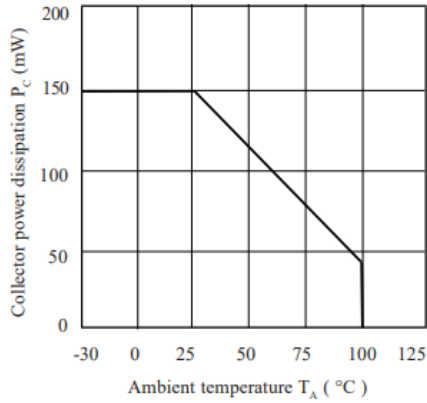


Fig 1 Collector Power Dissipation vs Ambient Temperature

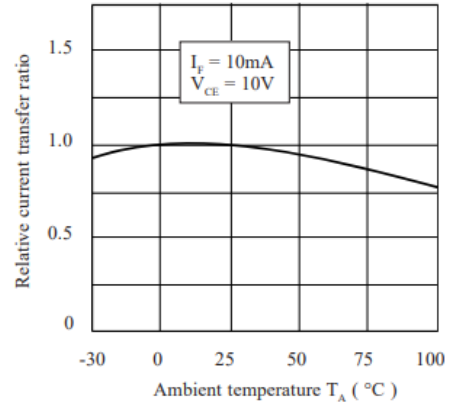


Fig 2 Relative Current Transfer Ratio vs Ambient Temperature

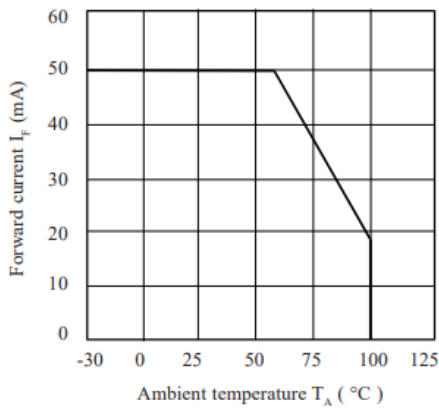


Fig 3 Forward Current vs Ambient

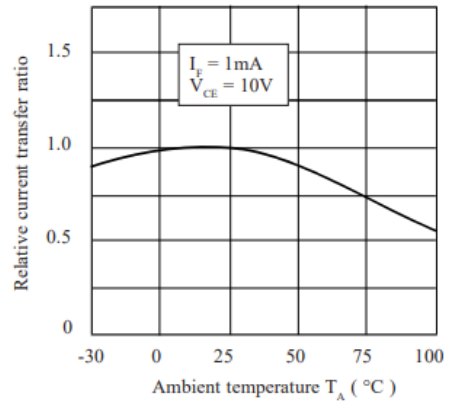


Fig 4 Relative Current Transfer Ratio vs Ambient Temperature

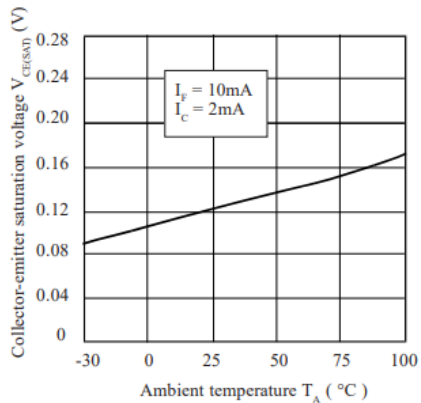


Fig 5 Collector-Emitter Saturation Voltage vs Ambient Temperature

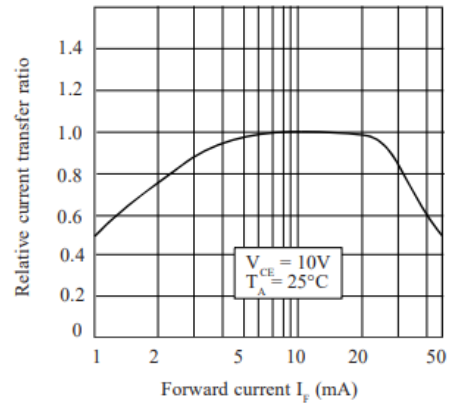
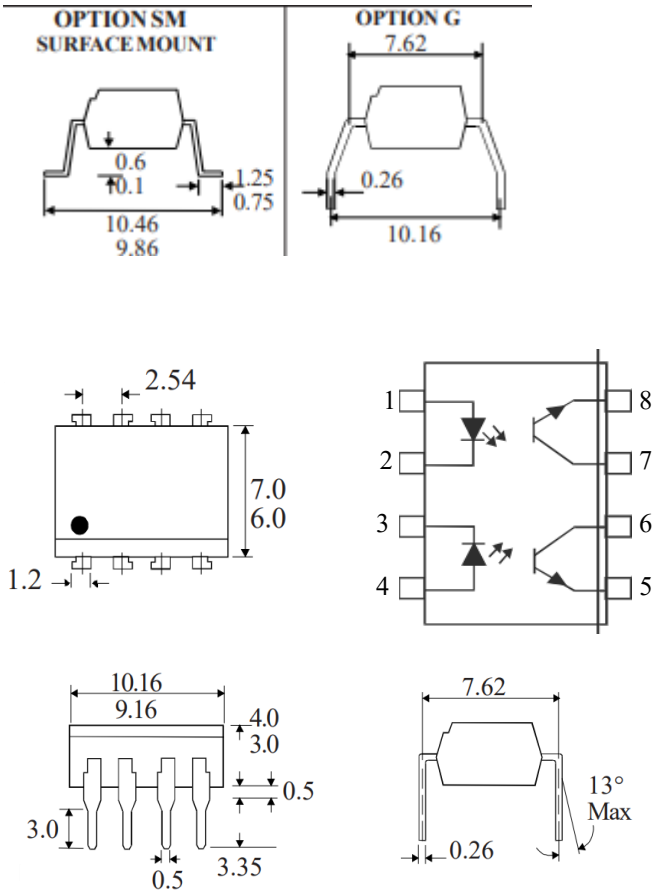


Fig 6 Relative Current Transfer Ratio vs Forward Current

ISD201, ISD202, ISD203

DIMENSIONS (mm)



DEVICE MARKING

I Isocom
 YY Year code (A=2010, B=2011, etc.)
 WW 2 digit Week code

UL identification also marked on the device.



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