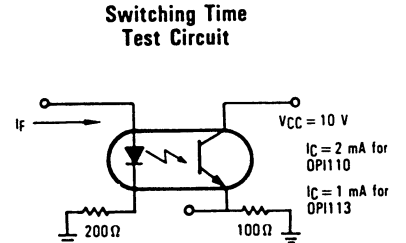
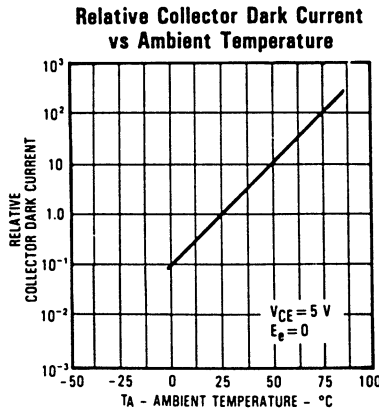
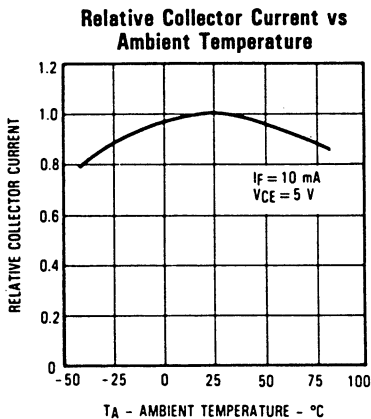
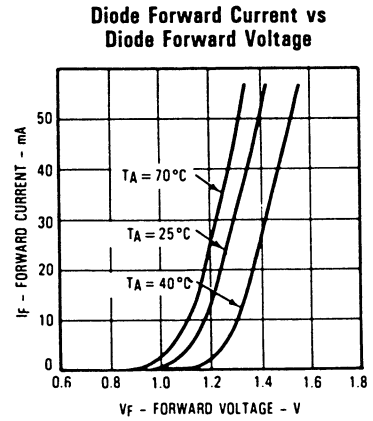
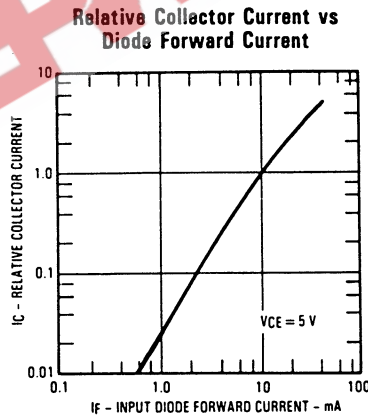
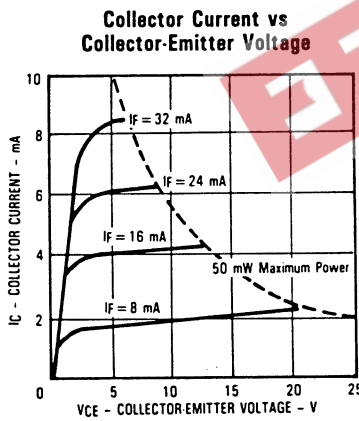


Types OPI110, OPI110A, OPI110B, OPI110C, OPI113

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|---------------------------|-------------------------------------|---|-------------------------------|--------------|---------------|---|
| Input Diode | | | | | | |
| V_F | Forward Voltage | | | 1.60 | V | $I_F = 20\text{ mA}$ |
| I_R | Reverse Current | | | 100 | μA | $V_R = 2.0\text{ V}$ |
| Output Photosensor | | | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | OPI110 OPI113 | 30 15 | | V V | $I_C = 100\ \mu\text{A}$ $I_C = 100\ \mu\text{A}, I_F = 0$ |
| $V_{(BR)ECO}$ | Emitter-Collector Breakdown Voltage | | 5.0 | | V | $I_E = 100\ \mu\text{A}, I_F = 0$ |
| I_{CEO} | Collector-Emitter Dark Current | OPI110 OPI113 | | 100 100 | nA nA | $V_{CE} = 15\text{ V}, E_e = 0$ $V_{CE} = 10\text{ V}, E_e = 0$ |
| Coupled | | | | | | |
| I_C/I_F | DC Current Transfer Ratio | OPI110 OPI110A OPI110B OPI110C OPI113 | 12.5 25 50 100 50 | | 125 400 | % % % % % $I_F = 10.0\text{ mA}, V_{CE} = 5.0\text{ V}$ $I_F = 10.0\text{ mA}, V_{CE} = 5.0\text{ V}$ $I_F = 10.0\text{ mA}, V_{CE} = 5.0\text{ V}$ $I_F = 10.0\text{ mA}, V_{CE} = 5.0\text{ V}$ $I_F = 5.0\text{ mA}, V_{CE} = 2.0\text{ V}$ |
| $V_{CE(SAT)}$ | Collector Saturation Voltage | OPI110 OPI113 | | 0.40 1.20 | V V | $I_F = 10.0\text{ mA}, I_C = 1.6\text{ mA}$ $I_F = 10.0\text{ mA}, I_C = 5.0\text{ mA}$ |
| I_{CEO} | Collector-Emitter Dark Current | OPI110 OPI113 | | 200 100 | nA nA | $V_{CE} = 20.0\text{ V}, I_F = 0$ $V_{CE} = 10.0\text{ V}, I_F = 0$ |
| V_{ISO} | Isolation Voltage | | 10.0 | | kVDC | (See Note 1) |

Typical Performance Curves (OPI110 Only)



t_r and t_f for OPI110 are typically $4\ \mu\text{s}$.
 t_r and t_f for OPI113 are typically $40\ \mu\text{s}$.
 The input waveform is supplied by a generator with the following characteristics: $Z_{OUT} = 50\ \Omega$, $t_r \leq 15\text{ ns}$, duty cycle $\cong 1\%$, pulse width = $100\ \mu\text{s}$.

OPTICALLY COUPLED ISOLATORS