

H24A1, H24A2
H24A3, H24A4

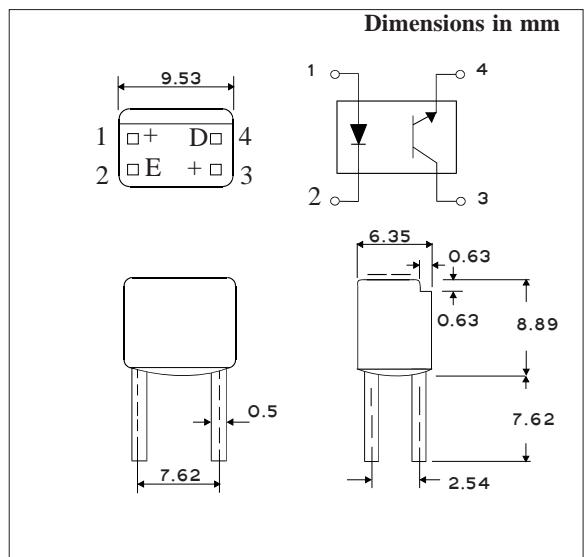
4 PIN OPTICALLY COUPLED ISOLATOR PHOTOTRANSISTOR OUTPUT

DESCRIPTION

The H24A series of optically coupled isolators consist of infrared light emitting diode and NPN silicon photo transistor in a plastic package.

FEATURES

- 4 pin Dual-in-Line package
- High Current Transfer Ratio available (H24A1 = 100% min.)
- High Isolation Voltage (3.75kV_{RMS}, 5.3kV_{PK})
- No base connection gives improved Common Mode Rejection



APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature _____ -40°C to + 85°C
Operating Temperature _____ -25°C to + 85°C
Lead Soldering Temperature
(1/16 inch (1.6mm) from case for 10 secs) 260°C

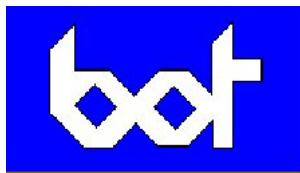
INPUT DIODE

Forward Current _____ 50mA
Reverse Voltage _____ 4V
Power Dissipation _____ 75mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} _____ 30V
Emitter-collector Voltage BV_{ECO} _____ 6V
Collector Current I_C _____ 20mA
Power Dissipation _____ 75mW

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

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F) Reverse Voltage (V_R) Reverse Current (I_R)	3	1.2	1.7 10	V V μA	$I_F = 20\text{mA}$ $I_R = 1\mu\text{A}$ $V_R = 4\text{V}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2) Emitter-collector Breakdown (BV_{ECO}) Collector-emitter Dark Current (I_{CEO})	30		50	V nA	$I_C = 1\text{mA}$ $I_E = 100\mu\text{A}$ $V_{CE} = 10\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2) H24A1 H24A2 H24A3 H24A4 Collector-emitter Saturation Voltage $V_{CE(SAT)}$ Input to Output Isolation Voltage V_{ISO} Input-output Isolation Resistance R_{ISO} Turn-on Time ton Turn-off Time toff Turn-on Time ton Turn-off Time toff	100 20 75 50 3750 5300 5×10^{10}		0.4	% % % % V V_{RMS} V_{PK} Ω	10mA I_F , 10V V_{CE} 10mA I_F , 10V V_{CE} 10mA I_F , 10V V_{CE} 10mA I_F , 10V V_C 10mA I_F , 0.5mA I_C See note 1 See note 1 $V_{IO} = 500\text{V}$ (note 1) $V_{CE} = 10\text{V}$, $I_C = 2\text{mA}, R_L = 100\Omega$ $V_{CE} = 5\text{V}$, $I_F = 10\text{mA}, R_L = 10\text{k}\Omega$

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.

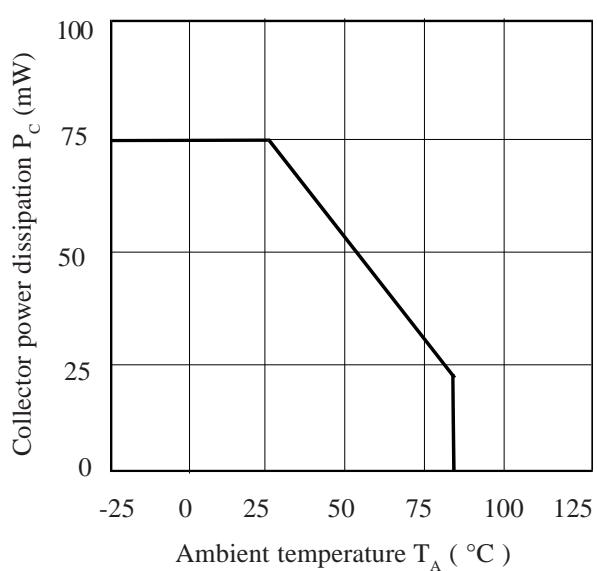
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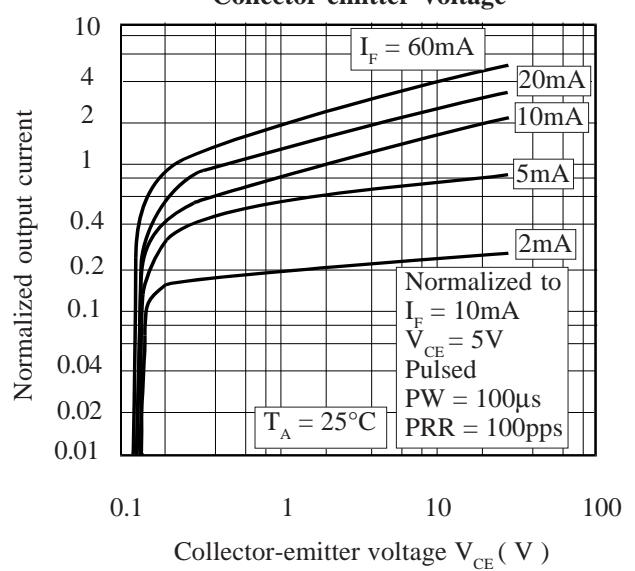
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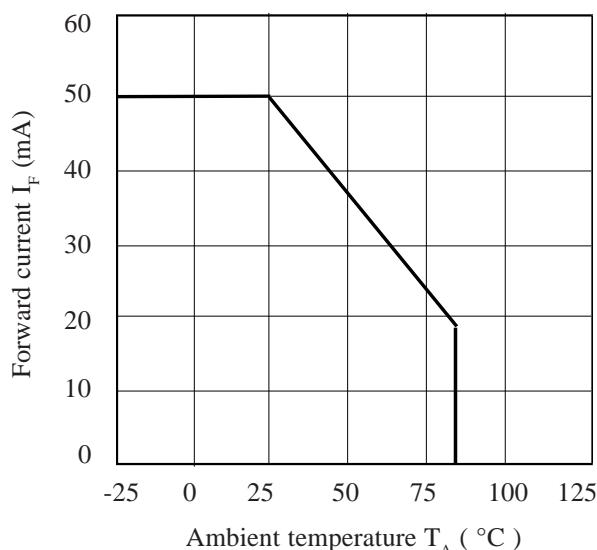
Collector Power Dissipation vs. Ambient Temperature



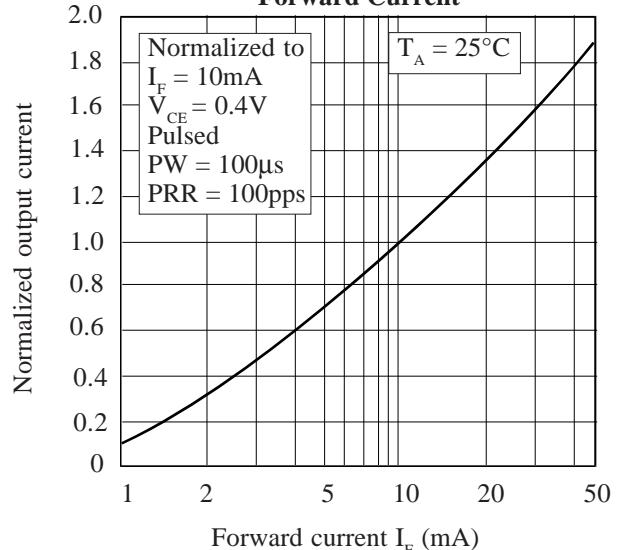
Normalized Output Current vs. Collector-emitter Voltage



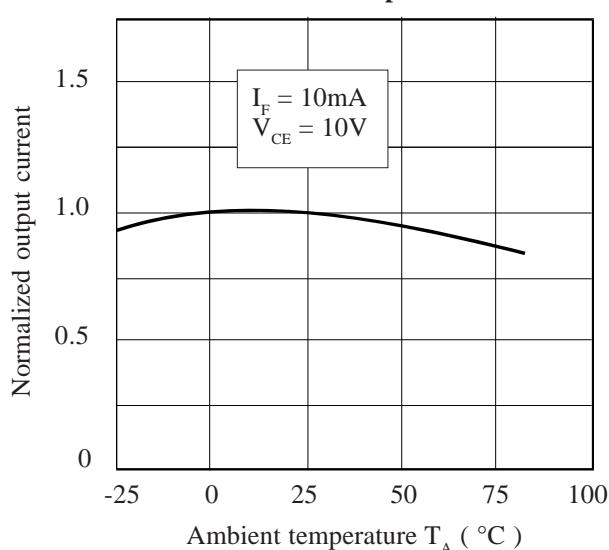
Forward Current vs. Ambient Temperature



Normalized Output Current vs. Forward Current



Normalized Output Current vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature

