66343

PHOTOTRANSISTOR OUTPUT SURFACE MOUNT OPTOCOUPLER WITH 850 nm LED

OPTOELECTRONIC PRODUCTS DIVISION

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Features:

- Small size saves real estate
- Pick and place compatible
- Military temperature range
- Solderable construction and terminations
- Designed to be Proton radiation tolerant

Applications:

- Eliminate ground loops
- Level shifting
- Line receiver
- Switching power supplies
- Motor control
- Pulse transformer replacement

DESCRIPTION

The ***66343*** is designed to be used with both epoxy-based surface mounting and reflow solder mounting techniques. State-of-the-art optocoupler technology is utilized. A high efficiency infrared 850 nm LED is coupled to a light-sensitive silicon phototransistor. This device is ideal for automated assembly in pick-and-place applications.

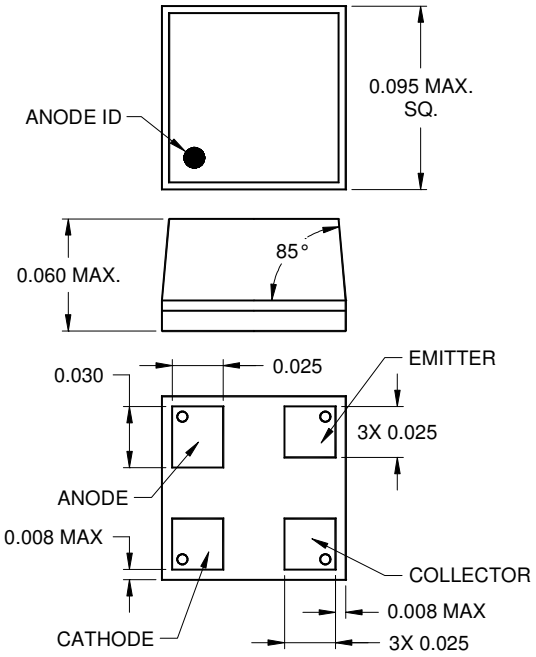
ABSOLUTE MAXIMUM RATINGS

Input to Output Isolation Voltage ..... +1 kVdc
Collector-Emitter Voltage ..... 35 V
Reverse Input Voltage ..... 2 V
Input Diode Continuous Forward Current at (or below) 65°C Free-Air Temperature (see note 1) ..... 50 mA
Storage Temperature ..... -65°C to +150°C
Operating Free-Air Temperature Range ..... -55°C to +125°C
Lead Solder Temperature ..... 245°C

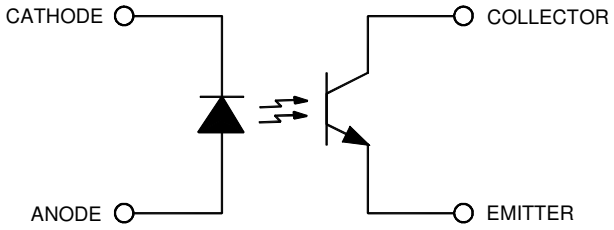
Notes:

1. Derate linearly to 125°C free-air temperature at the rate of 0.4 mW/°C above 65°C.

Package Dimensions



Schematic Diagram



ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input diode Static Reverse Current	I_R			100	µA	V_R = 2V
Input Diode Static Reverse Voltage	V_R	2			V	I_R = 10 µA
Input Diode Static Forward Voltage	V_F			1.6	V	I_F = 20 mA

OUTPUT TRANSISTOR

T_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	35			V	I_C = 1 mA, I_B = 0, I_F = 0

COUPLED CHARACTERISTICS

T_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Current Transfer Ratio	CTR	200			%	V_{CE} = 5 V, I_F = 10 mA
Off State Collector Current	$I_{C(OFF)}$			50	nA	V_{CE} = 20 V, I_F = 0 mA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.3	V	I_F = 20 mA, I_C = 10 mA, I_B = 0
Rise Time or Fall Time	t_r or t_f		10 10		µs	V_{CC} = 10 V, I_F = 5 mA, R_L = 100 Ω

NOTES:

1. Custom electrical specifications are available.

RECOMMENDED OPERATING CONDITIONS:

PARAMETER	SYMBOL	MIN	MAX	UNITS
Input Current, Low Level	I_{FL}	0	100	µA
Input Current, High Level	I_{FH}	1	20	mA
Supply Voltage	V_{CC}	5.0	20	V
Operating Temperature	T_A	-55	125	℃