66100 MICROCOUPLER, STANDARD TRANSISTOR OUTPUT

Mii

OPTOELECTRONIC PRODUCTS DIVISION

03/06/03

Features:

- CTR guaranteed from –55°C to +125°C
- Small size saves real estate
- Large thick film gold bond pads
- Element evaluation on request
- Electrically similar to 4N2X and 4N4X couplers

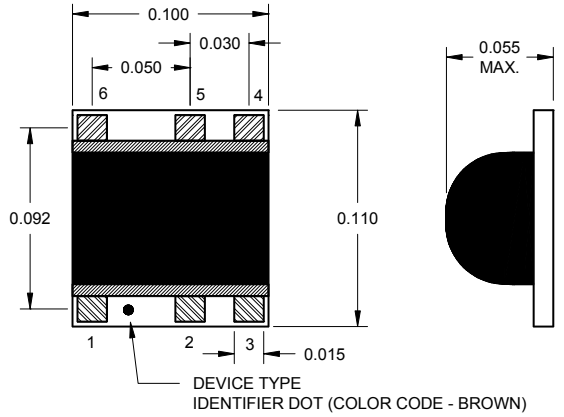
Applications:

- Eliminate ground loops
- Level shifting
- Line receiver
- Solid state switching
- Switching power supplies

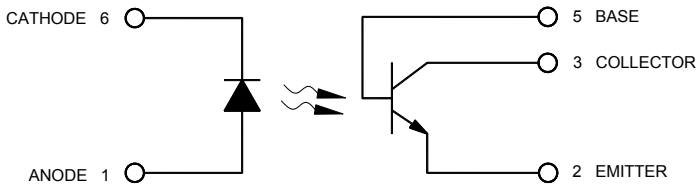
DESCRIPTION

The ***66100*** microcoupler is a single channel optocoupler consisting of an LED optically coupled to a light sensitive silicon phototransistor. Each microcoupler is provided with full 100% DC testing (+100°C test option upon request) or 100% element evaluation. All microcouplers are capable of operating over the full military temperature range (-55°C to +125°C).

Package Dimensions



Schematic Diagram



ELECTRICAL CHARACTERISTICS Ta = -55°C to +125°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Current Transfer Ratio	CTR1 CTR2	100 100	200 200		% %	I_F = 10mA, V_{CE} = 5V I_F = 1mA, V_{CE} = 5V	1
Input Diode Static Reverse Current	I_R			100	µA	V_R = 3V	
Input Diode Static Forward Voltage	V_F	0.9	1.3	1.7	V	I_F = 10mA	
Input-Output Insulation Leakage Current	$I_{I—O}$			1.0	µA	$V_{I—0}$ = 1500VDC, R.H. < 50% Ta = 25°C	2
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.3	V	I_F = 10mA, I_C = 2mA, I_B = 0	
Collector-Base Breakdown Voltage	VBR_{CBO}	70			V V	I_C = 10µA, I_B = 0, I_F = 0 Ta = 25°C	
Collector-Emitter Breakdown Voltage	VBR_{CEO}	30			V	I_C = 100µA, I_B = 0, I_F = 0 Ta = 25°C	
Emitter-Base Breakdown Voltage	VBR_{EBO}	5			V	I_C = 0, I_E = 100µA, I_F = 0 Ta = 25°C	
Off-State Collector Current	I_D			100 100	nA µA	I_F = 0mA, V_{CE} = 20V, T_a = 25°C I_F = 0mA, V_{CE} = 20V, T_a = 125°C	
Turn On Time	t_{ON}		5	15	µs	I_F = 2mA, V_{CE} = 10V, R_L = 100Ω Ta = 25°C	
Turn Off Time	t_{OFF}		5	15	µs	I_F = 2mA, V_{CE} = 10V, R_L = 100Ω Ta = 25°C	

NOTE:

1. Current Transfer Ratio is defined as the ratio of output collector current, I_O, to the forward LED input current., I_F, times 100%.
2. Measurement between pins 1 and 6 shorted together and pins 2, 3, 4, and 5 shorted together for duration of 1 second.

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RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN	MAX	UNITS
Input Current, Low Level	I_{FL}	0	100	μA
Input Current, High Level	I_{FH}	1	10	mA
Supply Voltage	V_{CE}	5	20	V
Operating Temperature	T_A	-55	125	°C

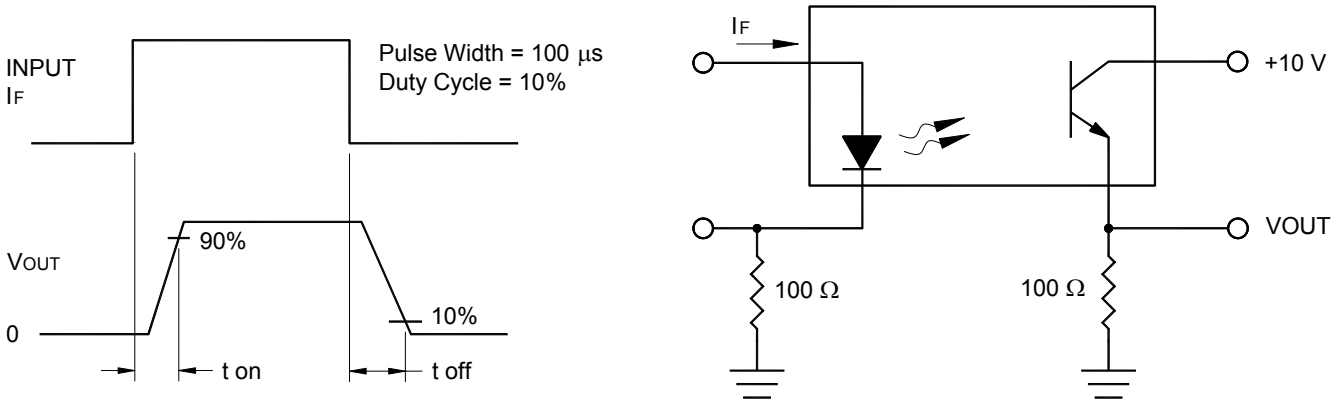

Figure 1. Switching Test Circuit