

66300**MICROCOUPLER, PHOTOTRANSISTOR OUTPUT
SIMILAR TO 4N55**

03/06/03

Features:

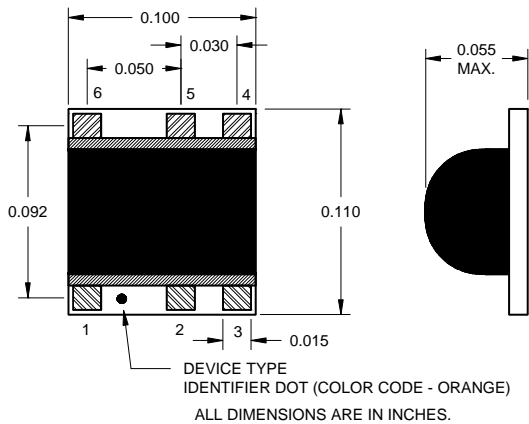
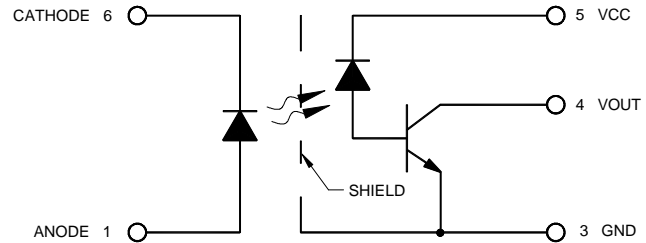
- 2MHz bandwidth typical
- Small size saves real estate
- Large thick film gold bond pads
- High common mode rejection

Applications:

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

DESCRIPTION

The 66300 microcoupler is a single channel optocoupler consisting of an LED optically coupled to a light sensitive high speed phototransistor. Each microcoupler is provided with full 100% DC testing (+125°C test option upon request) or 100% element evaluation. All microcouplers are capable of operating over the full military temperature range.

Package Dimensions**Schematic Diagram****ELECTRICAL CHARACTERISTICS**

$T_a = -55^\circ\text{C}$ to 125°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Current Transfer Ratio	CTR	9	20		%	$I_F = 16\text{mA}$, $V_O = 0.4\text{V}$, $V_{CC} = 4.5\text{V}$	1
Logic High Output Current	I_{OH}		20	100	μA	$I_F = 250\mu\text{A}$, $V_{CC} = V_O = 18\text{V}$	
High Level Output Current	I_{CCH}		0.2	10	μA	$I_F = 0$, $V_{CC} = 18\text{V}$	
Low Level Supply Current	I_{CCL}		35	200	μA	$I_{F1} = I_{F2} = 20\text{mA}$, $V_{CC} = 18\text{V}$	
Input Forward Voltage	V_F		1.5	1.8	V	$I_F = 20\text{mA}$	
Input Reverse Breakdown Voltage	BV_R	3			V	$I_R = 10\mu\text{A}$	
Propagation Delay Time To High Output Level	t_{PLH}		2	6	μs	$I_F = 16\text{mA}$, $V_{CC} = 5\text{V}$, $R_L = 8.2\text{k}\Omega$ $C_L = 50\text{pF}$	
Propagation Delay Time To Low Output Level	t_{PHL}		0.4	2	μs	$I_F = 16\text{mA}$, $V_{CC} = 5\text{V}$, $R_L = 8.2\text{k}\Omega$ $C_L = 50\text{pF}$	
Input Capacitance	C_{IN}		120		pF	$V_F = 0$, $f = \text{MHz}$	
Capacitance (Input-Output)	C_{I-O}		1.5		pF	$f = 1\text{MHz}$, $V_F = 0$	2
Resistance (Input-Output)	R_{I-O}		10^{12}		Ω	$V_{I-O} = 500\text{Vdc}$	

NOTES:

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. Measured between input pins shorted together and the output pins for that channel shorted together.

RECOMMENDED OPERATING CONDITIONS:

PARAMETER	SYMBOL	MIN	MAX	UNITS
Input Current, Low Level	I_{FL}	0	2	μA
Supply Voltage	V_{CC}	2.0	18	V

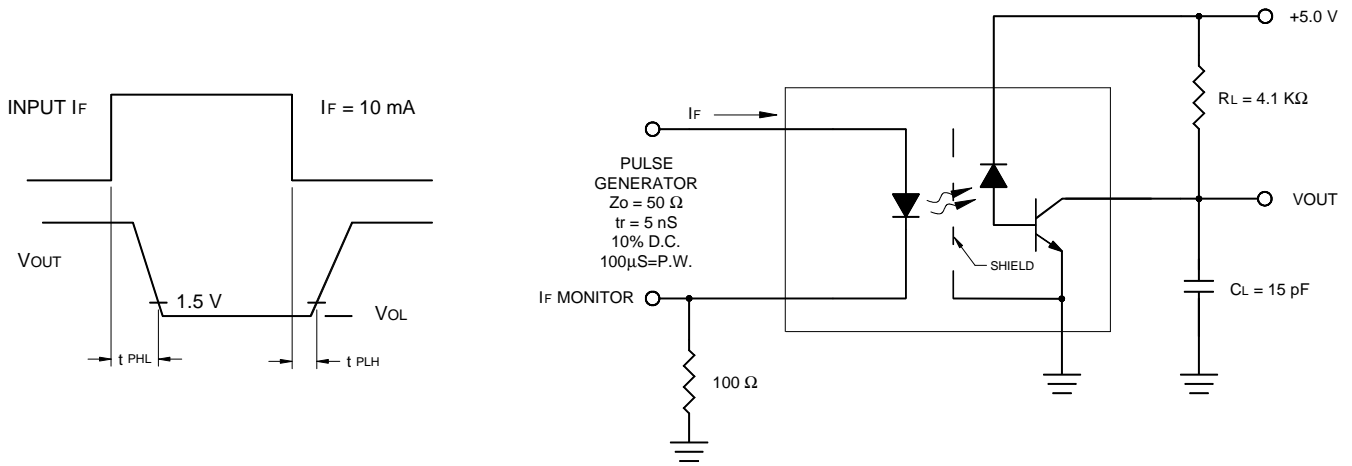


Figure 1. Switching Test Circuit