

Features:

- Electrically similar to the 4N49
- Serialized Parts for complete traceability
- Base lead provided for conventional transistor biasing, or for photodiode operation
- Hermetically Sealed for stability and reliability
- ±1000V electrical isolation
- Includes Group A, PIND, and X-Ray Inspection

Applications:

- Eliminates ground loops with signal ground isolation
- Level shifting
- Line receiver
- Switchmode Power Supplies
- Motor control
- Process Control input / output Isolation

DESCRIPTION

Very high gain radiation tolerant optocoupler utilizing GaAlAs infrared LED optically coupled to a NPN silicon phototransistor and packaged in a hermetically sealed 6 pin ceramic gull wing package. The **66266** optocouplers are single channel devices that are screened for space applications and that can also be screened to specific customer requirements.

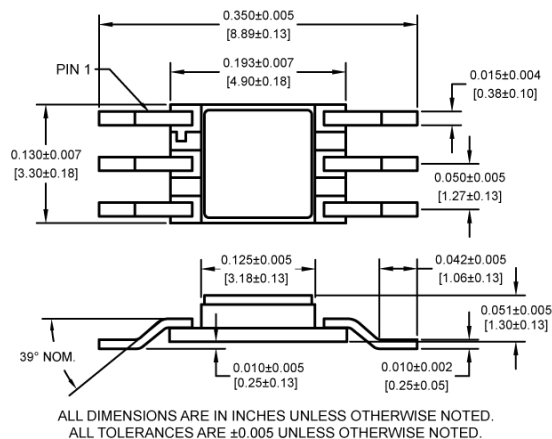
ABSOLUTE MAXIMUM RATINGS

Input to Output Isolation Voltage.....	±1000 V
Input LED Continuous Forward Current (Note 1).....	50 mA
Input LED Power Dissipation	80 mW
Input LED Peak Forward Current (Value applies for $t_w \leq 1\mu s$, PRR < 300 pps)	1 A
Input LED Reverse Voltage	7 V
Collector-Emitter Voltage (Value applies to emitter-base open-circuited & the input-diode equal to zero)	70 V
Collector-Base Voltage.....	45 V
Emitter-Collector Voltage	7 V
Emitter-Base Voltage	7 V
Continuous Collector Current.....	50 mA
Continuous Transistor Power Dissipation (Note 2)	300 mW
Operating Free-Air Temperature Range	-55°C to +125°C
Storage Temperature Range	-65°C to +125°C
Lead Solder Temperature (10 seconds max.).....	240°C

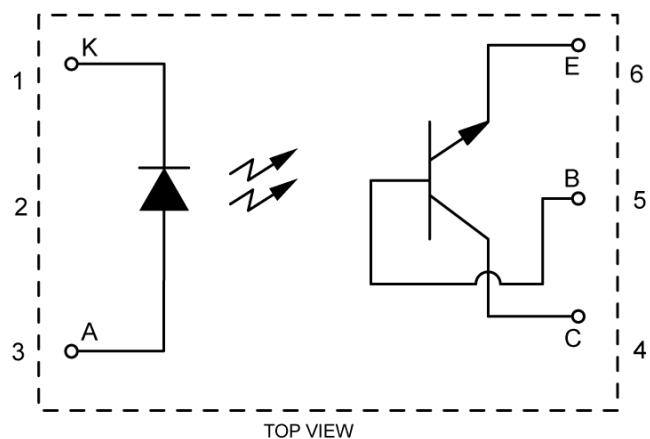
Notes:

1. Derate linearly to 125°C free-air temperature at the rate of 0.5 mA/°C above 25°C.
2. Derate linearly to 125°C free-air temperature at the rate of 3 mW/°C above 25°C.

Package Dimensions



Schematic Diagram



Do not connect to Pin 2
 Package Weight: 0.9 grams ± 0.05 grams
 Lead Plating: Gold Plate 60 µin (1.524 µm) thick (typ.) over 120 µin (3.048 µm) thick (typ.) nickel plate

07/16/2020

ELECTRICAL CHARACTERISTICST_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	MAX	UNITS	TEST CONDITIONS	NOTE
Input Diode Static Reverse Current	I _R		1	μA	V _R = 3 V	
Input Diode Static Forward Voltage	V _F	0.8	1.7	V	I _F = 10 mA	
		0.8	1.7			
		0.8	1.7			

OUTPUT TRANSISTORT_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	MAX	UNITS	TEST CONDITIONS	NOTE
Collector-Base Breakdown Voltage	V _{(BR)CBO}	45		V	I _C = 100 μA, I _B = 0, I _F = 0	
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	40		V	I _C = 1 mA, I _B = 0, I _F = 0	
Emitter-Collector Breakdown Voltage	V _{(BR)ECO}	5		V	I _E = 100 μA, I _F = 0	
Off-State Collector Current	I _{C(OFF)}		100	nA	V _{CE} = 20 V, I _F = 0 mA, I _B = 0	
Off-State Collector Current	I _{C(OFF)}		100	μA	V _{CE} = 20 V, I _F = 0 mA, I _B = 0	
DC Current Gain	H _{FE}	100			V _{CE} = 5 V, I _C = 10 mA	

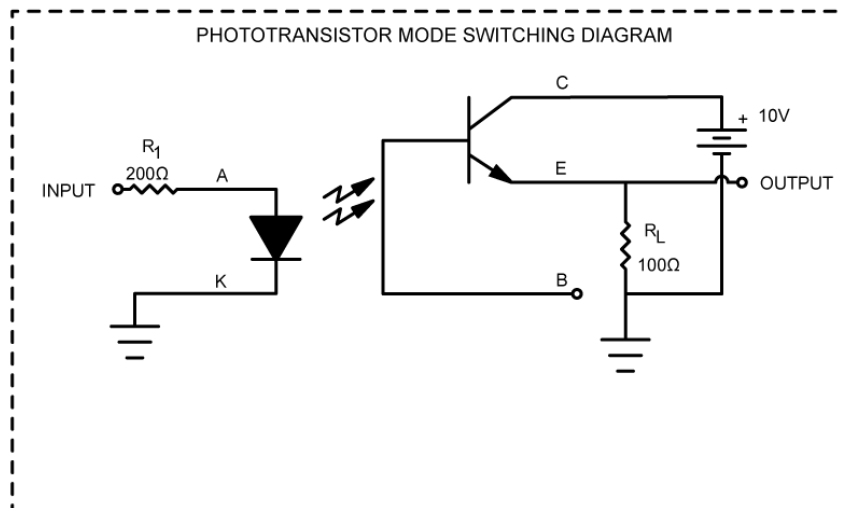
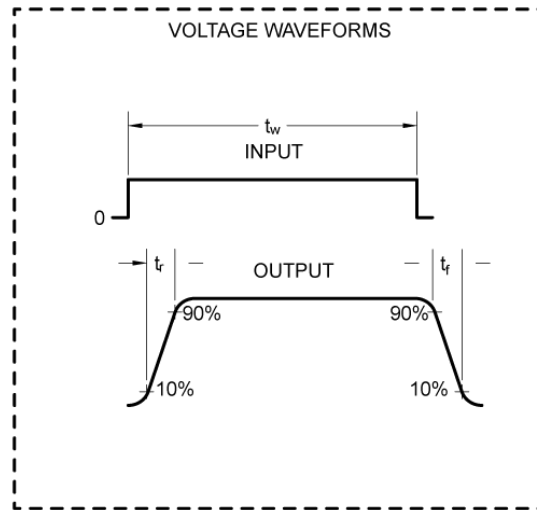
COUPLED CHARACTERISTICST_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	MAX	UNITS	TEST CONDITIONS	NOTE
On State Collector Current	I _{C(ON)1}	2.0		mA	V _{CE} = 5 V, I _F = 1 mA, I _B =0	
On State Collector Current	I _{C(ON)3}	2.0		mA	V _{CE} = 5 V, I _F = 2 mA, I _B =0	
On State Collector Current	I _{C(ON)4}	2.0		mA	V _{CE} = 5 V, I _F = 2 mA, I _B =0	
Current Transfer Ratio	CTR	2.0			V _{CE} = 5 V, I _F = 1 mA, I _B =0	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}		0.3	V	I _F = 2 mA, I _C = 1 mA, I _B =0	2
Input to Output Internal Resistance	R _{IO}	10 ¹¹		Ω	V _{I-O} = ±1000 V	1
Isolation Voltage Test	I _{IO}		100	μA	V _{I-O} = 1000 V	1
Input to Output Capacitance	C _{IO}		5	pF	f = 1 MHz, V _{I-O} = 0 V	1
Rise Time	t _r		10	μs	V _{CC} = 10 V, I _F = 10 mA, R _L = 100 Ω, I _B = 0	
Fall Time	t _f		10	μs	V _{CC} = 10 V, I _F = 10 mA, R _L = 100 Ω, I _B = 0	

NOTES:

- These parameters are measured between all phototransistor leads shorted together and with both input diode leads shorted together.
- This parameter must be measured using pulse techniques (t_w = 100μs duty cycle ≤ 1%).

TIMING DIAGRAM



SELECTION GUIDE

MICROPAC PART NUMBER	ELECTRICALLY EQUIVALENT TO:	PART DESCRIPTION
66266-300	4N49	Screened for Space Application

DEVICE OPTIONS AVAILABLE FOR SPECIFIC DEVICES

- Group B
- Tape and Reel
- Shipping Package Labeling
- Data Book of X-Ray views and test results by device serial number
- Group C
- Lead Finish
- Additional X-RAY Views
- Source Inspection
- Visual Inspection Specs