



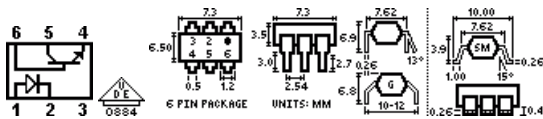
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4N25, 4N26, 4N27, 4N28 Optically Coupled Isolators

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Circuit



Features

2500, 1500 or 500 Volt Isolation.
 High DC Current Transfer Ratio.
 Low Cost Dual-In-Line Package.

Description

The 4N25, 4N26, 4N27, 4N28 are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode and an NPN silicon phototransistor mounted in a standard 6-pin dual-in-line package. Surface Mount Option Available.

All electrical parameters are 100% tested by manufacturing. Specifications are guaranteed to a cumulative 0.65% AQL.

Absolute Maximum Ratings: (Ta=25 °C)

Storage Temperature:	-55 °C to +150 °C
Operating Temperature:	-55 °C to +100 °C
Lead Soldering:	260 °C for 10s, 1.6mm from case
Input-to-Output Isolation Voltage:	±2500V (4N25) ±1500V (4N26, 4N27) ±500V (4N28)

Input Diode

Forward DC Current:	80mA
Reverse DC Voltage:	3V
Peak Forward Current:	3A (t p=10µs)
Power Dissipation:	100mW

Derate Linearly: 1.33mW/°C above 25°C

Output Transistor

Collector-Emitter Voltage: 30V
 Emitter-Collector Voltage: 7V
 Collector-Base Voltage: 70V
 Power Dissipation: 150mW
 Derate Linearly: 2.00mW/°C above 25°C

Package

Total Power Dissipation: 250mW
 Derate Linearly: 3.3mW/°C above 25°C

Electro-optical Characteristics: (Ta=25°C)

INPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _F	Forward Voltage	I _F =10mA			1.5	V
I _R	Reverse Current	V _R =3V			100	μA
V _R	Reverse Breakdown Voltage	I _R =10μA	3			V
OUTPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV _{CEO}	Collector-Emitter Voltage	I _C =1mA	30			V
BV _{ECO}	Emitter-Collector Voltage	I _E =100μA	7			V
BV _{CBO}	Collector-Base Voltage	I _C =100μA	70			V
I _{CEO}	Collector-Emitter Dark Current					
	4N25, 4N26, 4N27	V _{CE} =10V, I _B =0			50	nA
	4N28				100	nA
I _{CBO}	Collector-Base Dark Current	V _{CB} =10V, I _E =0			20	nA
C _{CE}	Collector-Emitter Capacitance	V _{CE} =0		10		pF
H _{FE}		V _{CE} =5.0V, I _C =100μA		150		
COUPLED	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
I _C /I _F	DC Current Transfer Ratio					
	4N25, 4N26	I _F =10mA, V _{CE} =10V	20	50		%
	4N27, 4N28	I _B =0	10	20		%
R _{IO}	Input-to-Output Isolation Resistance	V _{IO} =500V, (Note 1)	1E11			ohm
V _{CE(SAT)}	Collector-Emitter Saturation Voltage	I _F =50mA, I _C =2mA			0.5	V
C _{IO}	Capacitance Input to Output	f=1MHz (note 1)		0.6		pf
T _R	Output Rise Time	V _{CC} =10V, I _C =2mA, R _L =100ohm		2		μs
T _F	Output fall Time					μs
	Input-Output Isolation Voltage					V
	4N25	(Note 1)	2500			
	4N26, 4N27		1500			
	4N28		500			

Notes

1. Measured with input leads shorted together and output leads shorted together.

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