

4N29F, 4N30F, 4N31F,
4N32F,4N33F



ISOCOM

COMPONENTS



NON BASE LEAD OPTICALLY COUPLED ISOLATOR PHOTODARLINGTON OUTPUT

APPROVALS

- UL recognised, File No. E91231
Package Code "SS"
- Available in 3 lead forms :-
- STD
- G form
- SMD approved to CECC 00802

DESCRIPTION

The 4N29F,4N30F,4N31F,4N32F,4N33F series of optically coupled isolators consist of an infrared light emitting diode and NPN silicon photodarlington in a standard 6pin dual in line plastic package with the base pin unconnected.

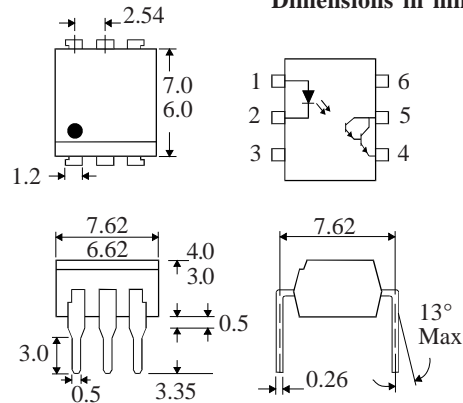
FEATURES

- Options :-
10mm lead spread - add G after part no.
Surface mount - add SM after part no.
Tape&reel - add SMT&R after part no.
- High Current Transfer Ratio
- High Isolation Voltage (5.3kV_{RMS}, 7.5kV_{PK})
- Basepin unconnected for improved noise immunity in high EMI environment
- Custom electrical selections available

APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances

Dimensions in mm



ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature _____ -40°C to +125°C
Operating Temperature _____ -25°C to +100°C
Lead Soldering Temperature
(1/16 inch (1.6mm) from case for 10 secs) 260°C

INPUT DIODE

Forward Current _____ 50mA
Reverse Voltage _____ 6V
Power Dissipation _____ 70mW

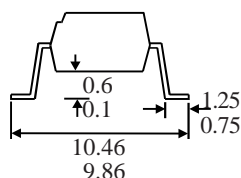
OUTPUT TRANSISTOR

Collector-emitter Voltage V_{CEO} _____ 80V
Emitter-collector Voltage V_{ECO} _____ 6V
Collector Current _____ 80mA
Power Dissipation _____ 150mW

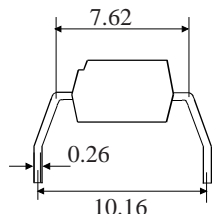
POWER DISSIPATION

Total Power Dissipation _____ 170mW
(derate linearly 3.3mW/°C above 25°C)

OPTION SM SURFACE MOUNT



OPTION G



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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	$I_F = 10\text{mA}$
	Reverse Current (I_R)			10	μA	$V_R = 4\text{V}$
Output	Collector-emitter Breakdown (BV_{CEO})	30			V	$I_C = 1\text{mA}$ (note 2)
	Emitter-collector Breakdown (BV_{ECO})	5			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})			1	μA	$V_{CE} = 10\text{V}$
Coupled	Output Collector Current (I_C) (Note 2)					
	4N32, 4N33	50			mA	$10\text{mA } I_F, 10\text{V } V_{CE}$
	4N29, 4N30	10			mA	$10\text{mA } I_F, 10\text{V } V_{CE}$
	4N31	5			mA	$10\text{mA } I_F, 10\text{V } V_{CE}$
	Collector-emitter Saturation Voltage					
	4N29, 4N30, 4N32, 4N33			1.0	V	$8\text{mA } I_F, 2\text{mA } I_C$
	4N31			1.2	V	$8\text{mA } I_F, 2\text{mA } I_C$
Input to Output Isolation Voltage V_{ISO}	5300				V_{RMS}	(note 1)
	7500				V_{PK}	(note 1)
Input-output Isolation Resistance R_{ISO}		10^{11}			Ω	$V_{IO} = 500\text{V}$ (note 1)
Response Time (Rise), t_r		60			μs	$V_{CE} = 2\text{V}, I_C = 10\text{mA},$
Response Time (Fall), t_f		53			μs	$R_L = 100\Omega, \text{fig.1}$

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

Note 2 Special Selections are available on request. Please consult the factory.

FIGURE 1

