

**4N25  
4N37**

**4N26  
H11A1**

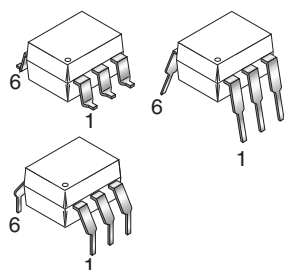
**4N27  
H11A2**

**4N28  
H11A3**

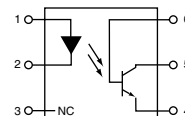
**4N35  
H11A4**

**4N36  
H11A5**

## WHITE PACKAGE (-M SUFFIX)

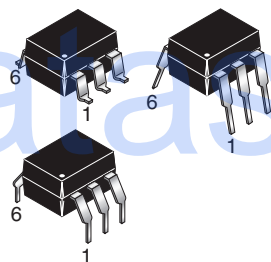


## SCHEMATIC



PIN 1. ANODE  
2. CATHODE  
3. NO CONNECTION  
4. EMITTER  
5. COLLECTOR  
6. BASE

## BLACK PACKAGE (NO -M SUFFIX)



## DESCRIPTION

The general purpose optocouplers consist of a gallium arsenide infrared emitting diode driving a silicon phototransistor in a 6-pin dual in-line package.

## FEATURES

- UL recognized (File # E90700)
- VDE recognized (File # 94766)
  - Add option V for white package (e.g., 4N25V-M)
  - Add option 300 for black package (e.g., 4N25.300)
- Also available in white package by specifying -M suffix, eg. 4N25-M

## APPLICATIONS

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

# GENERAL PURPOSE 6-PIN PHOTOTRANSISTOR OPTOCOUPLEDERS

**4N25**  
**4N37**

**4N26**  
**H11A1**

**4N27**  
**H11A2**

**4N28**  
**H11A3**

**4N35**  
**H11A4**

**4N36**  
**H11A5**

## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
<b>TOTAL DEVICE</b>			
Storage Temperature	$T_{\text{STG}}$	-55 to +150	$^\circ\text{C}$
Operating Temperature	$T_{\text{OPR}}$	-55 to +100	$^\circ\text{C}$
Lead Solder Temperature	$T_{\text{SOL}}$	260 for 10 sec	$^\circ\text{C}$
Total Device Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	250 3.3 (non-M), 2.94 (-M)	mW
<b>EMITTER</b>			
DC/Average Forward Input Current	$I_F$	100 (non-M), 60 (-M)	mA
Reverse Input Voltage	$V_R$	6	V
Forward Current - Peak (300 $\mu\text{s}$ , 2% Duty Cycle)	$I_{F(\text{pk})}$	3	A
LED Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	150 (non-M), 120 (-M) 2.0 (non-M), 1.41 (-M)	mW mW/ $^\circ\text{C}$
<b>DETECTOR</b>			
Collector-Emitter Voltage	$V_{\text{CEO}}$	30	V
Collector-Base Voltage	$V_{\text{CBO}}$	70	V
Emitter-Collector Voltage	$V_{\text{ECO}}$	7	V
Detector Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	150 2.0 (non-M), 1.76 (-M)	mW mW/ $^\circ\text{C}$

**4N25  
4N37**

**4N26  
H11A1**

**4N27  
H11A2**

**4N28  
H11A3**

**4N35  
H11A4**

**4N36  
H11A5**

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

**INDIVIDUAL COMPONENT CHARACTERISTICS**

Parameter	Test Conditions	Symbol	Min	Typ**	Max	Unit
<b>EMITTER</b>						
Input Forward Voltage	( $I_F = 10\text{ mA}$ )	$V_F$		1.18	1.50	V
Reverse Leakage Current	( $V_R = 6.0\text{ V}$ )	$I_R$		0.001	10	$\mu\text{A}$
<b>DETECTOR</b>						
Collector-Emitter Breakdown Voltage	( $I_C = 1.0\text{ mA}$ , $I_F = 0$ )	$BV_{CEO}$	30	100		V
Collector-Base Breakdown Voltage	( $I_C = 100\text{ }\mu\text{A}$ , $I_F = 0$ )	$BV_{CBO}$	70	120		V
Emitter-Collector Breakdown Voltage	( $I_E = 100\text{ }\mu\text{A}$ , $I_F = 0$ )	$BV_{ECO}$	7	10		V
Collector-Emitter Dark Current	( $V_{CE} = 10\text{ V}$ , $I_F = 0$ )	$I_{CEO}$		1	50	nA
Collector-Base Dark Current	( $V_{CB} = 10\text{ V}$ )	$I_{CBO}$			20	nA
Capacitance	( $V_{CE} = 0\text{ V}$ , $f = 1\text{ MHz}$ )	$C_{CE}$		8		pF

**ISOLATION CHARACTERISTICS**

Characteristic	Test Conditions	Symbol	Min	Typ**	Max	Units
Input-Output Isolation Voltage	(Non-'M', Black Package) ( $f = 60\text{ Hz}$ , $t = 1\text{ min}$ )	$V_{ISO}$	5300			Vac(rms)*
	('M', White Package) ( $f = 60\text{ Hz}$ , $t = 1\text{ sec}$ )		7500			Vac(pk)
Isolation Resistance	( $V_{I-O} = 500\text{ VDC}$ )	$R_{ISO}$	$10^{11}$			$\Omega$
Isolation Capacitance	( $V_{I-O} = \&$ , $f = 1\text{ MHz}$ )	$C_{ISO}$		0.5		pF
	('M' White Package)			0.2	2	pF

Note

\* 5300 Vac(rms) for 1 minute equates to approximately 9000 Vac (pk) for 1 second

\*\* Typical values at  $T_A = 25^\circ\text{C}$

**4N25  
4N37**

**4N26  
H11A1**

**4N27  
H11A2**

**4N28  
H11A3**

**4N35  
H11A4**

**4N36  
H11A5**

**TRANSFER CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  Unless otherwise specified.)

DC Characteristic	Test Conditions	Symbol	Device	Min	Typ**	Max	Unit
Current Transfer Ratio, Collector to Emitter	(I <sub>F</sub> = 10 mA, V <sub>CE</sub> = 10 V)	CTR	4N35 4N36 4N37	100			%
			H11A1	50			
			H11A5	30			
			4N25 4N26 H11A2 H11A3	20			
	4N27 4N28 H11A4		10				
	4N35 4N36 4N37		40				
	4N35 4N36 4N37		40				
Collector-Emitter Saturation Voltage	(I <sub>C</sub> = 2 mA, I <sub>F</sub> = 50 mA)	V <sub>CE (SAT)</sub>	4N25 4N26 4N27 4N28			0.5	V
	(I <sub>C</sub> = 0.5 mA, I <sub>F</sub> = 10 mA)		4N35 4N36 4N37			0.3	
			H11A1 H11A2 H11A3 H11A4 H11A5			0.4	
AC Characteristic							
Non-Saturated Turn-on Time	(I <sub>F</sub> = 10 mA, V <sub>CC</sub> = 10 V, R <sub>L</sub> = 100Ω) (Fig.20)	T <sub>ON</sub>	4N25 4N26 4N27 4N28 H11A1 H11A2 H11A3 H11A4 H11A5		2		μs
Non Saturated Turn-on Time	(I <sub>C</sub> = 2 mA, V <sub>CC</sub> = 10 V, R <sub>L</sub> = 100Ω) (Fig.20)	T <sub>ON</sub>	4N35 4N36 4N37		2	10	μs

**4N25  
4N37**

**4N26  
H11A1**

**4N27  
H11A2**

**4N28  
H11A3**

**4N35  
H11A4**

**4N36  
H11A5**

TRANSFER CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ Unless otherwise specified.) (Continued)							
AC Characteristic	Test Conditions	Symbol	Device	Min	Typ**	Max	Unit
Turn-off Time	( $I_F = 10\text{ mA}$ , $V_{CC} = 10\text{ V}$ , $R_L = 100\Omega$ ) (Fig.20)	$T_{OFF}$	4N25 4N26 4N27 4N28 H11A1 H11A2 H11A3 H11A4 H11A5		2		$\mu\text{s}$
	( $I_C = 2\text{ mA}$ , $V_{CC} = 10\text{ V}$ , $R_L = 100\Omega$ ) (Fig.20)		4N35 4N36 4N37		2	10	

\*\* Typical values at  $T_A = 25^\circ\text{C}$

**4N25  
4N37**

**4N26  
H11A1**

**4N27  
H11A2**

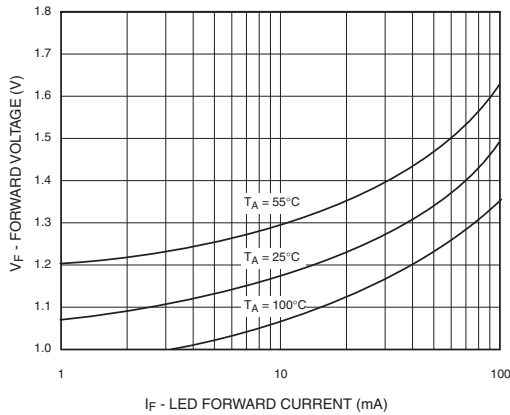
**4N28  
H11A3**

**4N35  
H11A4**

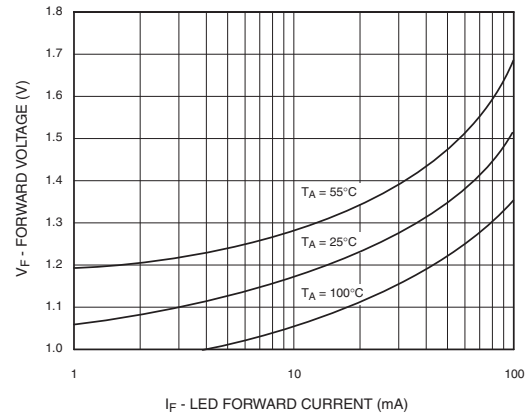
**4N36  
H11A5**

## TYPICAL PERFORMANCE CURVES

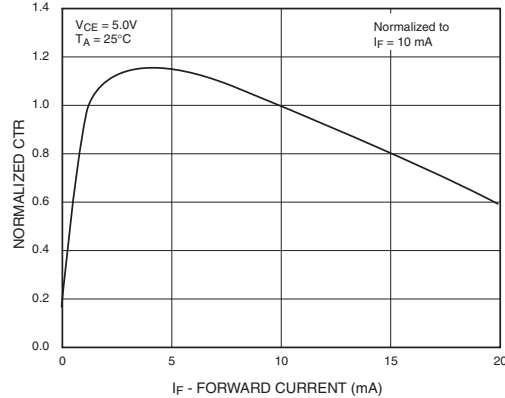
**Fig. 1 LED Forward Voltage vs. Forward Current  
(Black Package)**



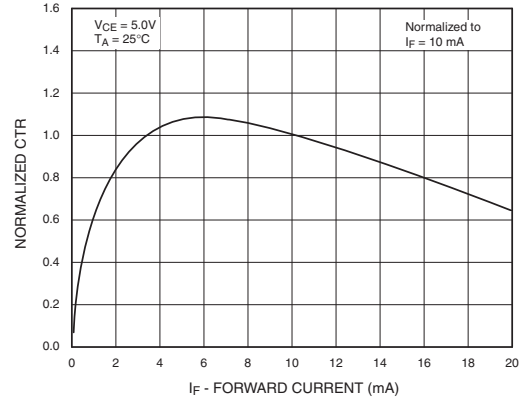
**Fig. 2 LED Forward Voltage vs. Forward Current  
(White Package)**



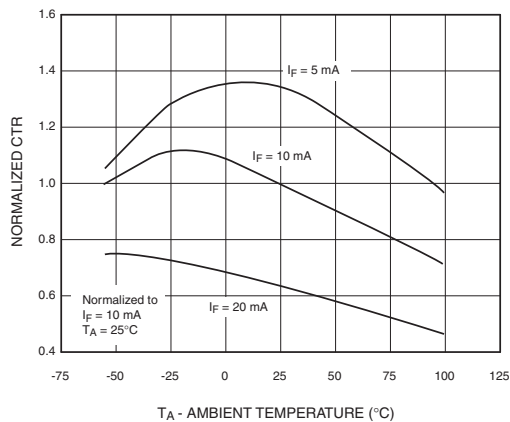
**Fig.3 Normalized CTR vs. Forward Current  
(Black Package)**



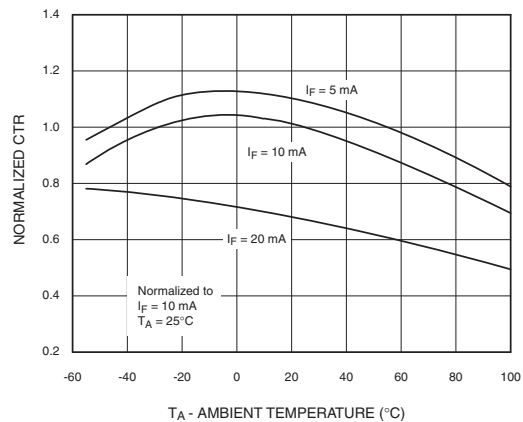
**Fig.4 Normalized CTR vs. Forward Current  
(White Package)**



**Fig. 5 Normalized CTR vs. Ambient Temperature  
(Black Package)**



**Fig. 6 Normalized CTR vs. Ambient Temperature  
(White Package)**



**4N25**  
**4N37**

**4N26**  
**H11A1**

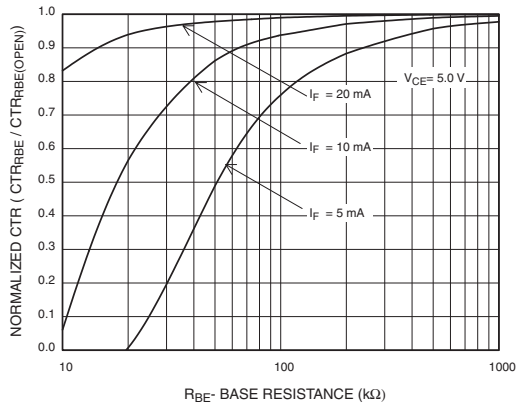
**4N27**  
**H11A2**

**4N28**  
**H11A3**

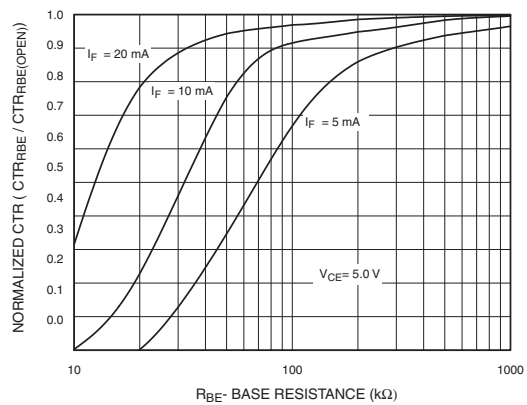
**4N35**  
**H11A4**

**4N36**  
**H11A5**

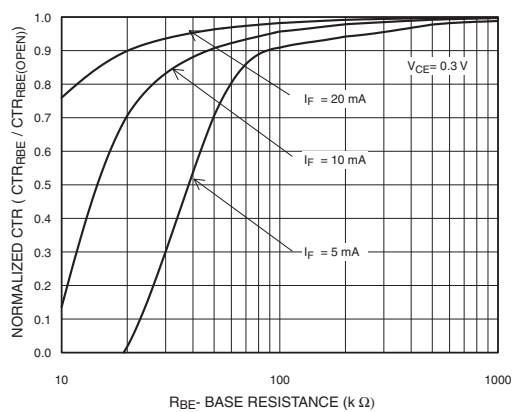
**Fig. 7 CTR vs. RBE (Unsaturated)**  
**(Black Package)**



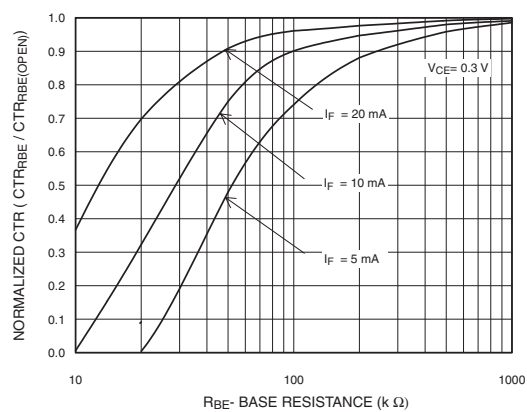
**Fig. 8 CTR vs. RBE (Unsaturated)**  
**(White Package)**



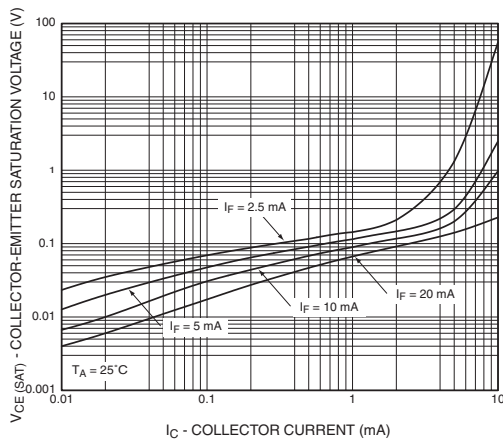
**Fig. 9 CTR vs. RBE (Saturated)**  
**(Black Package)**



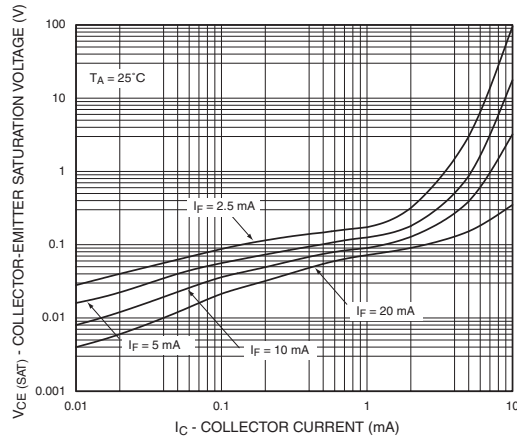
**Fig. 10 CTR vs. RBE (Saturated)**  
**(White Package)**



**Fig. 11 Collector-Emitter Saturation Voltage vs. Collector Current**  
**(Black Package)**



**Fig. 12 Collector-Emitter Saturation Voltage vs. Collector Current**  
**(White Package)**



**4N25**  
**4N37**

**4N26**  
**H11A1**

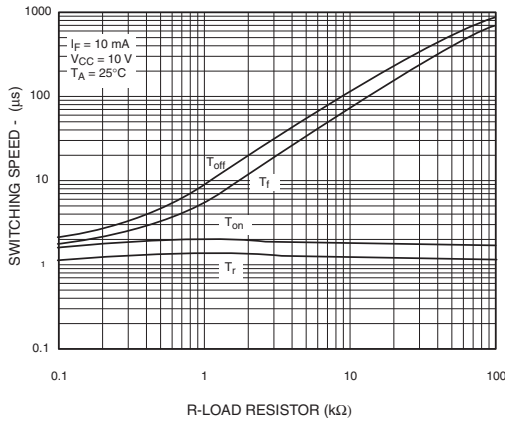
**4N27**  
**H11A2**

**4N28**  
**H11A3**

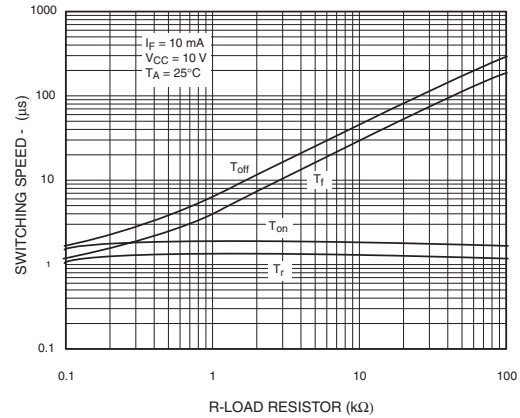
**4N35**  
**H11A4**

**4N36**  
**H11A5**

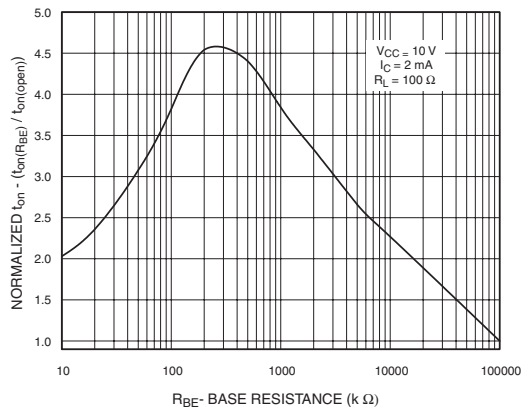
**Fig. 13 Switching Speed vs. Load Resistor  
(Black Package)**



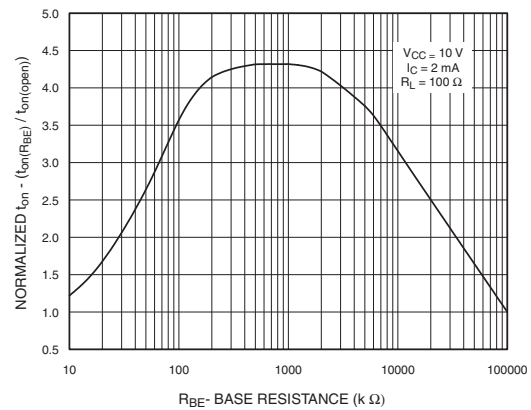
**Fig. 14 Switching Speed vs. Load Resistor  
(White Package)**



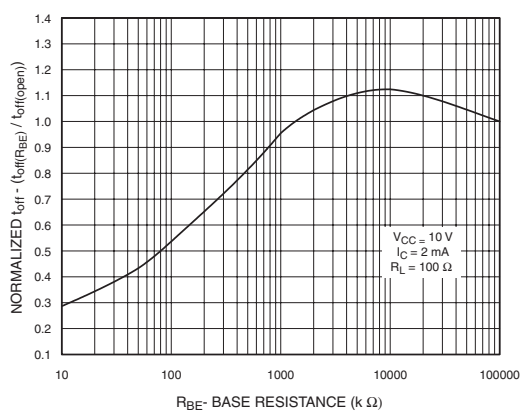
**Fig. 15 Normalized  $t_{on}$  vs.  $R_{BE}$   
(Black Package)**



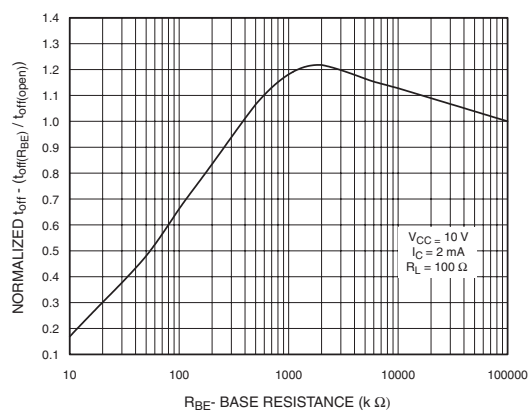
**Fig. 16 Normalized  $t_{on}$  vs.  $R_{BE}$   
(White Package)**



**Fig. 17 Normalized  $t_{off}$  vs.  $R_{BE}$   
(Black Package)**



**Fig. 18 Normalized  $t_{off}$  vs.  $R_{BE}$   
(White Package)**





4N25  
4N37

4N26  
H11A1

4N27  
H11A2

4N28  
H11A3

4N35  
H11A4

4N36  
H11A5

Fig. 19 Dark Current vs. Ambient Temperature

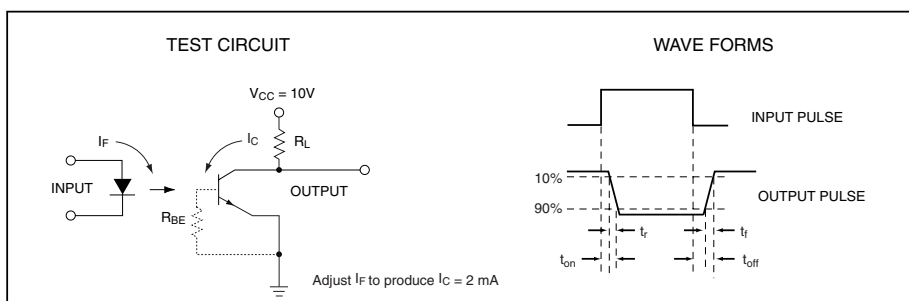
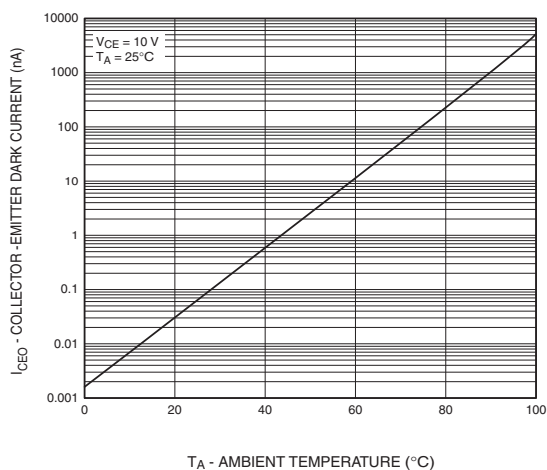


Figure 20. Switching Time Test Circuit and Waveforms

**4N25  
4N37**

**4N26  
H11A1**

**4N27  
H11A2**

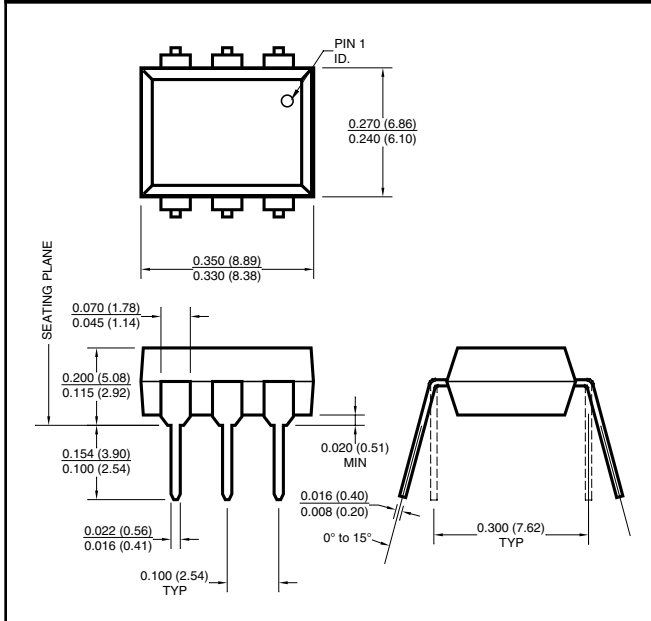
**4N28  
H11A3**

**4N35  
H11A4**

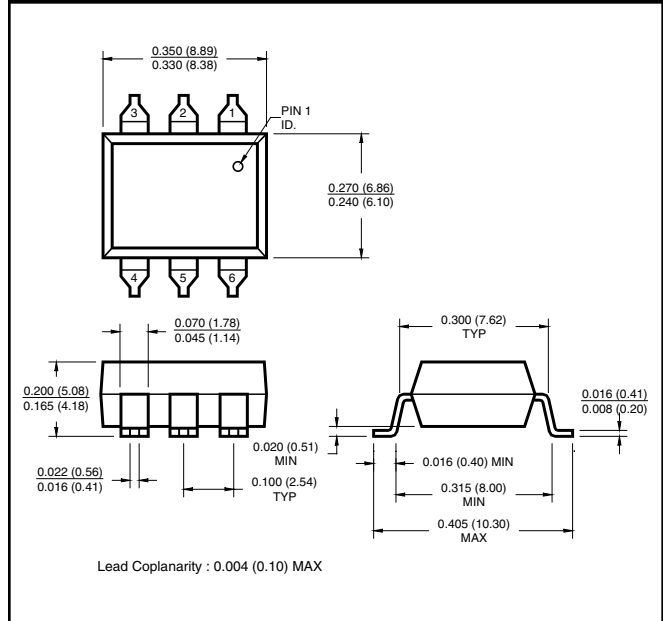
**4N36  
H11A5**

## Black Package (No -M Suffix)

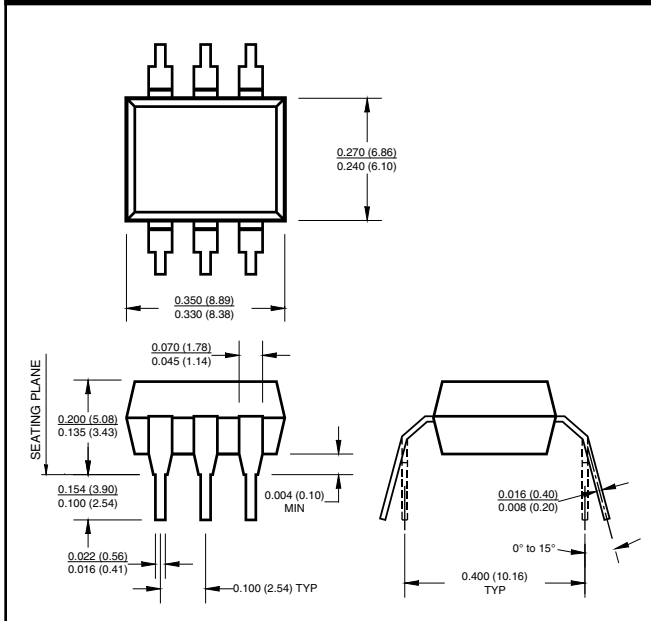
### Package Dimensions (Through Hole)



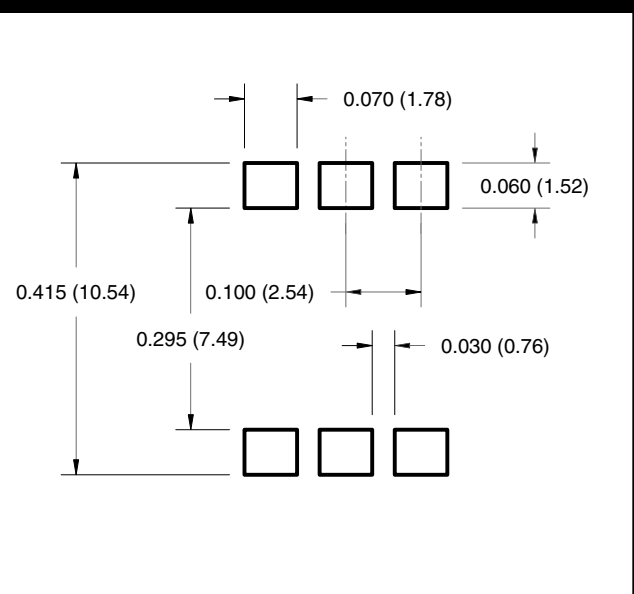
### Package Dimensions (Surface Mount)



### Package Dimensions (0.4" Lead Spacing)



### Recommended Pad Layout for Surface Mount Leadform



## NOTE

All dimensions are in inches (millimeters)

**4N25  
4N37**

**4N26  
H11A1**

**4N27  
H11A2**

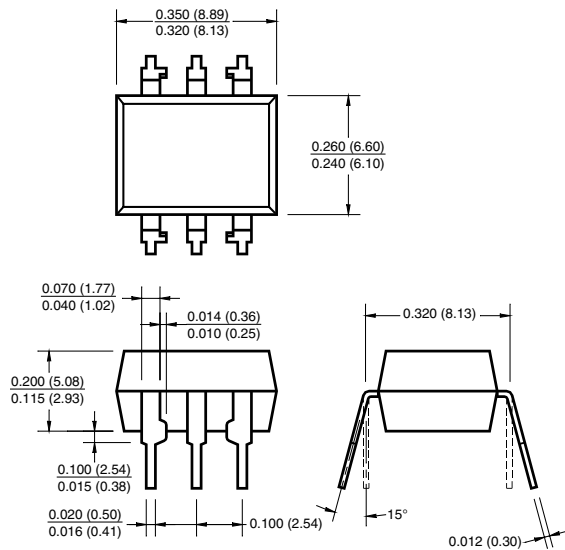
**4N28  
H11A3**

**4N35  
H11A4**

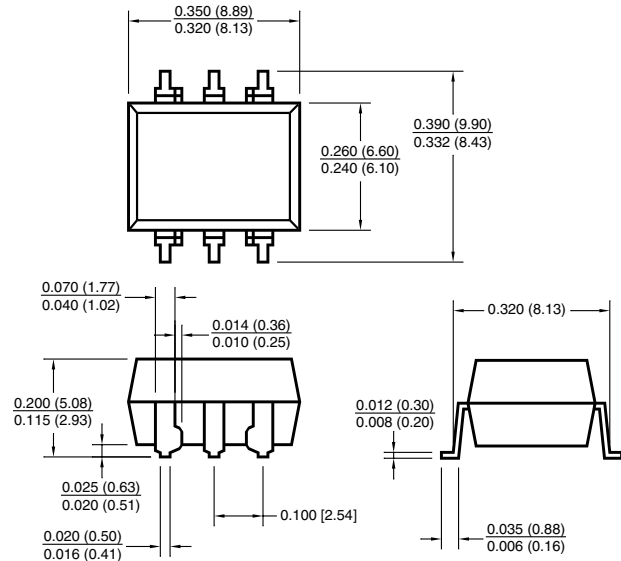
**4N36  
H11A5**

## White Package (-M Suffix)

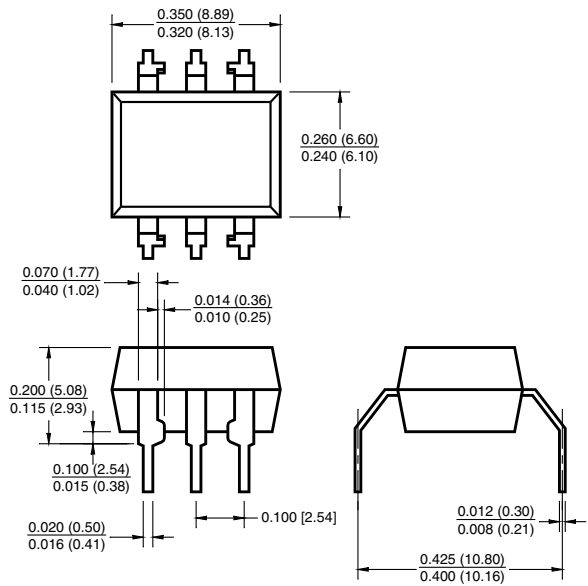
### Package Dimensions (Through Hole)



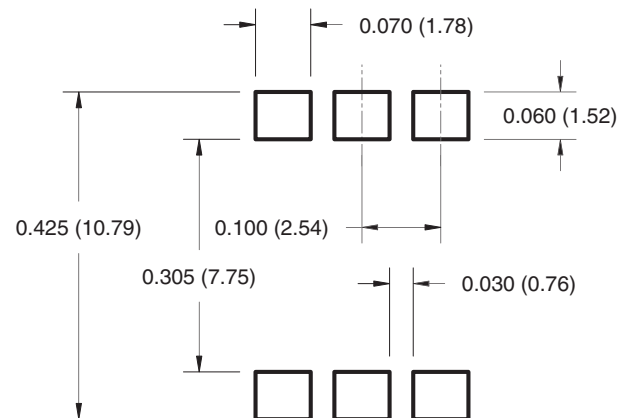
### Package Dimensions (Surface Mount)



### Package Dimensions (0.4" Lead Spacing)



### Recommended Pad Layout for Surface Mount Leadform



## NOTE

All dimensions are in inches (millimeters)

**4N25**  
**4N37**

**4N26**  
**H11A1**

**4N27**  
**H11A2**

**4N28**  
**H11A3**

**4N35**  
**H11A4**

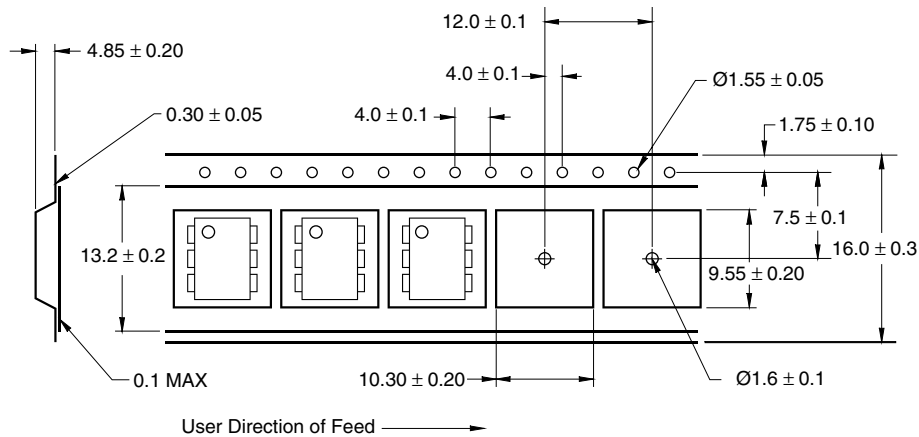
**4N36**  
**H11A5**

## ORDERING INFORMATION

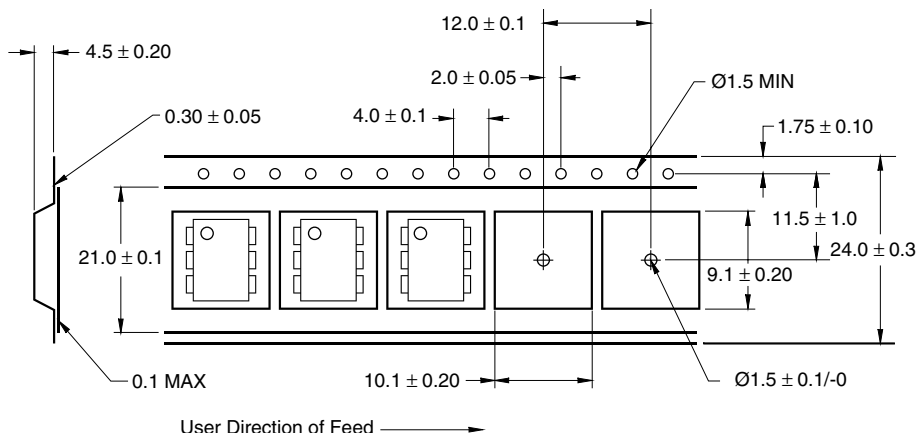
### Order Entry Identifier

Black Package (No Suffix)	White Package (-m Suffix)	Option
.S	S	Surface Mount Lead Bend
.SD	SR2	Surface Mount; Tape and reel
.W	T	0.4" Lead Spacing
.300	V	VDE 0884
.300W	TV	VDE 0884, 0.4" Lead Spacing
.3S	SV	VDE 0884, Surface Mount
.3SD	SR2V	VDE 0884, Surface Mount, Tape & Reel

### QT Carrier Tape Specifications ("D" Taping Orientation) (Black Package, No Suffix)



### QT Carrier Tape Specifications ("D" Taping Orientation) (White Package, -M Suffix)



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<b>4N25</b>	<b>4N26</b>	<b>4N27</b>	<b>4N28</b>	<b>4N35</b>	<b>4N36</b>
<b>4N37</b>	<b>H11A1</b>	<b>H11A2</b>	<b>H11A3</b>	<b>H11A4</b>	<b>H11A5</b>

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

Fairchild Semiconductor		SEARCH   Parametric   Cross Reference	
		space	Product Folders and Applies
find products	Home >> Find products >>		
Products groups	4N28-M	Related Links	
Analog and Mixed	6-Pin White Package Phototransistor 6-PIN, DIP	Request samples	
Signal		Dotted line	
Discrete		How to order products	
Interface	Contents	Dotted line	
Logic	General description   Features   Applications	Product Change Notices	
Microcontrollers	Ordering information   Product	(PCNs)	
Non-Volatile	status/pricing/packaging   Safety agency	Dotted line	
Memory	certificates	Support	
Optoelectronics		Dotted line	
Markets and applications	General description	Distributor and field sales representatives	
New products		Dotted line	
Product selection and parametric search	The general purpose optocouplers consist of a gallium arsenide infrared emitting diode a silicon phototransistor in a 6-Pin dual-in-line package.	Quality and reliability	
Cross-reference search		Dotted line	
technical information	back to top	Design tools	
buy products	Features		
technical support			
my Fairchild	<ul style="list-style-type: none"><li>Underwriters Laboratory (UL) recognized - File #E90700</li><li>VDE recognized - File #94766</li></ul>		
company	<ul style="list-style-type: none"><li>- Add option V for white package (e.g. 4N25V-M)</li><li>- Add option 300 for black package (e.g. 4N25.300)</li></ul> <ul style="list-style-type: none"><li>Also available in white package by specified - M suffix, e.g. 4N25-M except H11A2, H11A4 and H11A5</li></ul>		
	back to top		
	Applications		

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

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Ordering information

The following options can be ordered with this part:

Option	Order Entry Identifier	Description
300	.300	VDE 0884
3S	.3S	Option S (see below); VDE 0884
3SD	.3SD	Option S (see below); VDE 0884; Tape and Reel
R2	.R2	Opto Plus 2 Reliability Conditioning
S	.S	Surface-Mount Lead Bend
SD	.SD	Option S; Tape and Reel
W	.W	10 mm Lead Bend

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
4N28FR2V-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N28TV-M	Full Production	\$0.132	N/A	N/A	RAIL
4N28FV-M	Full Production	\$0.149	N/A	N/A	RAIL
4N28SR2-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N28-M	Full Production	\$0.132	N/A	N/A	RAIL
4N28F-M	Full Production	\$0.149	N/A	N/A	RAIL
4N28V-M	Full Production	\$0.132	N/A	N/A	RAIL
4N28T-M	Full Production	\$0.132	DIP	6	RAIL
4N28FR2-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N28SR2V-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N28S-M	Full Production	\$0.132	DIP	6	RAIL
4N28SV-M	Full Production	\$0.132	DIP	6	RAIL

\* 1,000 piece Budgetary Pricing

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<a href="#">CR/0117</a> (424 K)	BABT	British Approvals Board of Telecommunications
<a href="#">102497</a> (1629 K)	VDE	VDE Pruf-und Zertifizierungsinstitut
<a href="#">1113639</a> (111 K)	CSA	Canadian Standards Association
<a href="#">0134082</a> (136 K)	SEMKO	SEMKO
<a href="#">FI 17434</a> (47 K)	FIMKO	FIMKO
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Features

- Underwriters Laboratory (UL)  
recognized - File #E90700
- VDE recognized - File #94766

- Add option V for white package  
(e.g. 4N25V-M)  
- Add option 300 for black package  
(e.g. 4N25.300)

- Also available in white package by  
specified - M suffix, e.g. 4N25-M  
except H11A2, H11A4 and H11A5

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Applications

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

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Ordering information

The following options can be ordered with this part:

Option	Order Entry Identifier	Description
300	.300	VDE 0884
3S	.3S	Option S (see below); VDE 0884
3SD	.3SD	Option S (see below); VDE 0884; Tape and Reel
R2	.R2	Opto Plus 2 Reliability Conditioning
S	.S	Surface-Mount Lead Bend
SD	.SD	Option S; Tape and Reel
W	.W	10 mm Lead Bend

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
4N26FR2V-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N26-M	Full Production	\$0.132	N/A	N/A	RAIL
4N26FR2-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N26SR2-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N26V-M	Full Production	\$0.132	N/A	N/A	RAIL
4N26SV-M	Full Production	\$0.141	DIP	6	RAIL
4N26FV-M	Full Production	\$0.176	N/A	N/A	RAIL
4N26T-M	Full Production	\$0.132	DIP	6	RAIL
4N26TV-M	Full Production	\$0.141	N/A	N/A	RAIL
4N26S-M	Full Production	\$0.132	DIP	6	RAIL
4N26F-M	Full Production	\$0.149	N/A	N/A	RAIL
4N26SR2V-M	Full Production	\$0.141	DIP	6	TAPE REEL

\* 1,000 piece Budgetary Pricing

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<a href="#">P01101866</a> (383 K)	NEMKO	NEMKO
<a href="#">CR/0117</a> (424 K)	BABT	British Approvals Board of Telecommunications
<a href="#">102497</a> (1629 K)	VDE	VDE Pruf-und Zertifizierungsinstitut
<a href="#">1113639</a> (111 K)	CSA	Canadian Standards Association
<a href="#">0134082</a> (136 K)	SEMKO	SEMKO
<a href="#">FI 17434</a> (47 K)	FIMKO	FIMKO
<a href="#">E90700, Vol. 2</a> (254 K)	UL	Underwriters Laboratories Inc.

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4N27-M  
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Features

- Underwriters Laboratory (UL) recognized - File #E90700
- VDE recognized - File #94766

- Add option V for white package  
(e.g. 4N25V-M)  
- Add option 300 for black package  
(e.g. 4N25.300)

- Also available in white package by specified - M suffix, e.g. 4N25-M except H11A2, H11A4 and H11A5

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Applications

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

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Ordering information

The following options can be ordered with this part:

Option	Order Entry Identifier	Description
300	.300	VDE 0884
3S	.3S	Option S (see below); VDE 0884
3SD	.3SD	Option S (see below); VDE 0884; Tape and Reel
R2	.R2	Opto Plus 2 Reliability Conditioning
S	.S	Surface-Mount Lead Bend
SD	.SD	Option S; Tape and Reel
W	.W	10 mm Lead Bend

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
4N27SV-M	Full Production	\$0.132	DIP	6	RAIL
4N27FV-M	Full Production	\$0.149	N/A	N/A	RAIL
4N27SR2V-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N27SR2-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N27S-M	Full Production	\$0.132	DIP	6	RAIL
4N27TV-M	Full Production	\$0.132	N/A	N/A	RAIL
4N27-M	Full Production	\$0.132	N/A	N/A	RAIL
4N27F-M	Full Production	\$0.149	N/A	N/A	RAIL
4N27T-M	Full Production	\$0.132	DIP	6	RAIL
4N27FR2V-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N27FR2-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N27V-M	Full Production	\$0.132	N/A	N/A	RAIL

\* 1,000 piece Budgetary Pricing

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<a href="#">102497</a> (1629 K)	VDE	VDE Pruf-und Zertifizierungsinstitut
<a href="#">1113639</a> (111 K)	CSA	Canadian Standards Association
<a href="#">0134082</a> (136 K)	SEMKO	SEMKO
<a href="#">FI 17434</a> (47 K)	FIMKO	FIMKO
<a href="#">E90700, Vol. 2</a> (254 K)	UL	Underwriters Laboratories Inc.

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Features

- Underwriters Laboratory (UL)  
recognized - File #E90700
- VDE recognized - File #94766

- Add option V for white package  
(e.g. 4N25V-M)  
- Add option 300 for black package  
(e.g. 4N25.300)

- Also available in white package by  
specified - M suffix, e.g. 4N25-M  
except H11A2, H11A4 and H11A5

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Applications

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

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Ordering information

The following options can be ordered with this part:

Option	Order Entry Identifier	Description
300	.300	VDE 0884
3S	.3S	Option S (see below); VDE 0884
3SD	.3SD	Option S (see below); VDE 0884; Tape and Reel
R2	.R2	Opto Plus 2 Reliability Conditioning
S	.S	Surface-Mount Lead Bend
SD	.SD	Option S; Tape and Reel
W	.W	10 mm Lead Bend

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
4N25FR2-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N25FV-M	Full Production	\$0.149	N/A	N/A	RAIL
4N25F-M	Full Production	\$0.149	N/A	N/A	RAIL
4N25TV-M	Full Production	\$0.132	N/A	N/A	RAIL
4N25SV-M	Full Production	\$0.132	DIP	6	RAIL
4N25T-M	Full Production	\$0.132	DIP	6	RAIL
4N25FR2V-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N25-M	Full Production	\$0.132	N/A	N/A	RAIL
4N25V-M	Full Production	\$0.132	N/A	N/A	RAIL
4N25SR2V-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N25S-M	Full Production	\$0.132	DIP	6	RAIL
4N25SR2-M	Full Production	\$0.141	DIP	6	TAPE REEL

\* 1,000 piece Budgetary Pricing

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<a href="#">CR/0117</a> (424 K)	BABT	British Approvals Board of Telecommunications
<a href="#">102497</a> (1629 K)	VDE	VDE Pruf-und Zertifizierungsinstitut
<a href="#">1113639</a> (111 K)	CSA	Canadian Standards Association
<a href="#">0134082</a> (136 K)	SEMKO	SEMKO
<a href="#">FI 17434</a> (47 K)	FIMKO	FIMKO
<a href="#">E90700, Vol. 2</a> (254 K)	UL	Underwriters Laboratories Inc.

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6-Pin White Package Phototransistor 6-PIN, DIP

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Features

• Underwriters Laboratory (UL) recognized - File #E90700

• VDE recognized - File #94766

- Add option V for white package (e.g. 4N25V-M)

- Add option 300 for black package (e.g. 4N25.300)

• Also available in white package by specified - M suffix, e.g. 4N25-M except H11A2, H11A4 and H11A5

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Applications

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

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Ordering information

The following options can be ordered with this part:

Option	Order Entry Identifier	Description
300	.300	VDE 0884
3S	.3S	Option S (see below); VDE 0884
3SD	.3SD	Option S (see below); VDE 0884; Tape and Reel
R2	.R2	Opto Plus 2 Reliability Conditioning
S	.S	Surface-Mount Lead Bend
SD	.SD	Option S; Tape and Reel
W	.W	10 mm Lead Bend

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
4N35FR2-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N35SR2V-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N35SR2-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N35T-M	Full Production	\$0.132	DIP	6	RAIL
4N35F-M	Full Production	\$0.149	N/A	N/A	RAIL
4N35SV-M	Full Production	\$0.132	DIP	6	RAIL
4N35FR2V-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N35V-M	Full Production	\$0.132	N/A	N/A	RAIL
4N35S-M	Full Production	\$0.132	DIP	6	RAIL
4N35FV-M	Full Production	\$0.149	N/A	N/A	RAIL
4N35TV-M	Full Production	\$0.132	DIP	6	RAIL
4N35-M	Full Production	\$0.132	N/A	N/A	RAIL

\* 1,000 piece Budgetary Pricing

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<a href="#">CR/0117</a> (424 K)	BABT	British Approvals Board of Telecommunications
<a href="#">102497</a> (1629 K)	VDE	VDE Pruf-und Zertifizierungsinstitut
<a href="#">1113639</a> (111 K)	CSA	Canadian Standards Association
<a href="#">0134082</a> (136 K)	SEMKO	SEMKO
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4N36-M

6-Pin White Package Phototransistor 6-PIN, DIP

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Features

• Underwriters Laboratory (UL) recognized - File #E90700

• VDE recognized - File #94766

- Add option V for white package (e.g. 4N25V-M)

- Add option 300 for black package (e.g. 4N25.300)

• Also available in white package by specified - M suffix, e.g. 4N25-M except H11A2, H11A4 and H11A5

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Applications

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

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Ordering information

The following options can be ordered with this part:

Option	Order Entry Identifier	Description
300	.300	VDE 0884
3S	.3S	Option S (see below); VDE 0884
3SD	.3SD	Option S (see below); VDE 0884; Tape and Reel
R2	.R2	Opto Plus 2 Reliability Conditioning
S	.S	Surface-Mount Lead Bend
SD	.SD	Option S; Tape and Reel
W	.W	10 mm Lead Bend

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
4N36SR2V-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N36V-M	Full Production	\$0.132	N/A	N/A	RAIL
4N36T-M	Full Production	\$0.132	DIP	6	RAIL
4N36TV-M	Full Production	\$0.132	N/A	N/A	RAIL
4N36FV-M	Full Production	\$0.149	N/A	N/A	RAIL
4N36FR2-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N36SV-M	Full Production	\$0.132	DIP	6	RAIL
4N36FR2V-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N36-M	Full Production	\$0.132	N/A	N/A	RAIL
4N36F-M	Full Production	\$0.149	N/A	N/A	RAIL
4N36SR2-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N36S-M	Full Production	\$0.132	DIP	6	RAIL

\* 1,000 piece Budgetary Pricing

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<a href="#">P01101866</a> (383 K)	NEMKO	NEMKO
<a href="#">CR/0117</a> (424 K)	BABT	British Approvals Board of Telecommunications
<a href="#">102497</a> (1629 K)	VDE	VDE Pruf-und Zertifizierungsinstitut
<a href="#">1113639</a> (111 K)	CSA	Canadian Standards Association
<a href="#">0134082</a> (136 K)	SEMKO	SEMKO
<a href="#">FI 17434</a> (47 K)	FIMKO	FIMKO
<a href="#">E90700, Vol. 2</a> (254 K)	UL	Underwriters Laboratories Inc.

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Features

- Underwriters Laboratory (UL)  
recognized - File #E90700
- VDE recognized - File #94766

- Add option V for white package  
(e.g. 4N25V-M)  
- Add option 300 for black package  
(e.g. 4N25.300)

- Also available in white package by  
specified - M suffix, e.g. 4N25-M  
except H11A2, H11A4 and H11A5

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Applications



- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

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Ordering information

The following options can be ordered with this part:

Option	Order Entry Identifier	Description
300	.300	VDE 0884
3S	.3S	Option S (see below); VDE 0884
3SD	.3SD	Option S (see below); VDE 0884; Tape and Reel
R2	.R2	Opto Plus 2 Reliability Conditioning
S	.S	Surface-Mount Lead Bend
SD	.SD	Option S; Tape and Reel
W	.W	10 mm Lead Bend

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
4N37V-M	Full Production	\$0.132	N/A	N/A	RAIL
4N37S-M	Full Production	\$0.132	DIP	6	RAIL
4N37SR2V-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N37TV-M	Full Production	\$0.132	N/A	N/A	RAIL
4N37F-M	Full Production	\$0.149	N/A	N/A	RAIL
4N37SV-M	Full Production	\$0.132	DIP	6	RAIL
4N37FR2V-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N37FR2-M	Full Production	\$0.159	DIP	6	TAPE REEL
4N37SR2-M	Full Production	\$0.141	DIP	6	TAPE REEL
4N37T-M	Full Production	\$0.132	N/A	N/A	RAIL
4N37FV-M	Full Production	\$0.149	N/A	N/A	RAIL
4N37-M	Full Production	\$0.132	N/A	N/A	RAIL

\* 1,000 piece Budgetary Pricing

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Safety agency certificates

Cetificate	Agency	
<a href="#">310983-01</a> (95 K)	DEMKO	DEMKO Testing & Certification
<a href="#">P01101866</a> (383 K)	NEMKO	NEMKO
<a href="#">CR/0117</a> (424 K)	BABT	British Approvals Board of Telecommunications
<a href="#">102497</a> (1629 K)	VDE	VDE Pruf-und Zertifizierungsinstitut
<a href="#">1113639</a> (111 K)	CSA	Canadian Standards Association
<a href="#">0134082</a> (136 K)	SEMKO	SEMKO
<a href="#">FI 17434</a> (47 K)	FIMKO	FIMKO
<a href="#">E90700, Vol. 2</a> (254 K)	UL	Underwriters Laboratories Inc.

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