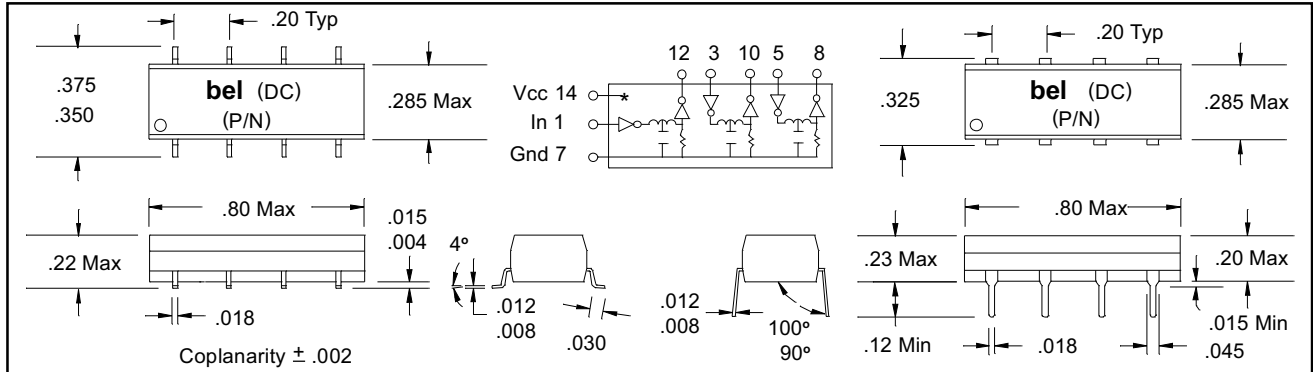




defining a degree of excellence

## TRIPLE LINE LEADING EDGE CONTROL STANDARD DELAY MODULES

Cat 12-R3



### Part Numbers

SMD	Thru-Hole	Time Delay	Tolerance	Rise Time
S422-0005-A3	A447-0005-A3	5 ns	± 1.0 ns	3 ns
S422-0010-A3	A447-0010-A3	10 ns	± 1.5 ns	3 ns
S422-0015-A3	A447-0015-A3	15 ns	± 1.5 ns	3 ns
S422-0020-A3	A447-0020-A3	20 ns	± 1.5 ns	3 ns
S422-0025-A3	A447-0025-A3	25 ns	± 1.5 ns	3 ns
S422-0030-A3	A447-0030-A3	30 ns	± 1.5 ns	3 ns
S422-0035-A3	A447-0035-A3	35 ns	± 1.5 ns	3 ns
S422-0040-A3	A447-0040-A3	40 ns	± 2.0 ns	3 ns
S422-0045-A3	A447-0045-A3	45 ns	± 2.0 ns	3 ns
S422-0050-A3	A447-0050-A3	50 ns	± 2.5 ns	3 ns
S422-0060-A3	A447-0060-A3	60 ns	± 3.0 ns	4 ns
S422-0070-A3	A447-0070-A3	70 ns	± 3.5 ns	4 ns
S422-0080-A3	A447-0080-A3	80 ns	± 4.0 ns	4 ns

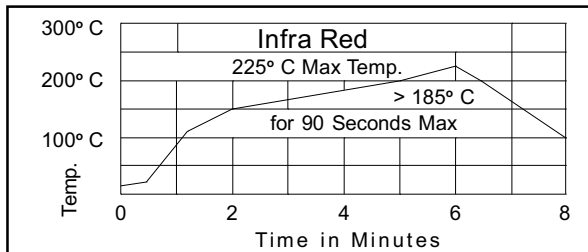
### Tolerances

Input to Output ± 5% , Unless otherwise specified  
Delays measured @ 1.5 V levels on Leading Edge only  
with 15pf loads on Outputs  
Rise and Fall Times measured from 0.75 V to 2.4 V levels

### Drive Capabilities

Nh	Logic 1 Fanout	-	10 TTL Loads Max.
Nl	Logic 0 Fanout	-	10 TTL Loads Max.

### Recommended Temperature Profile



### Test Conditions @ 25°C

Ein	Pulse Voltage	3.2 Volts
Trin	Rise Time	3.0 ns (10%-90%)
PW	Pulse Width	1.2 x Total Delay
PP	Pulse Period	4 x Pulse Width
Iccl	Supply Current	80 ma Typical
Vcc	Supply Voltage	5.0 Volts

### Electrical Characteristics

	Min.	Max.	Units	
Vcc	Supply Voltage	4.75	5.25	V
Vih	Logic 1 Input Voltage	2.0		V
Vil	Logic 0 Input Voltage		0.8	V
Ioh	Logic 1 Output Current		-1	ma
Iol	Logic 0 Output Current		20	ma
Voh	Logic 1 Output Voltage	2.7		V
Vol	Logic 0 Output voltage		0.5	V
Vik	Input Clamp Voltage		-1.2	V
Iih	Logic 1 Input Current		20	ua
Iil	Logic 0 Input Current		-0.6	ma
Ios	Short Circuit Output Current	-60	-150	ma
Icch	Logic 1 Supply Current		70	ma
Iccl	Logic 0 Supply Current		90	ma
Ta	Operating Free Air Temperature	0°	70°	C
PW	Min. Input Pulse Width of Total Delay	100		%
d	Maximum Duty Cycle		50	%
Tc	Temp. Coeff. of Total Delay (TD)	100 + (25000/TD) PPM/°C		

### Notes

Transfer molded for better reliability  
Compatible with TTL & DTL circuits  
Terminals: Electro-Tin plate phosphor bronze  
Performance warranty is limited to specified parameters listed  
SMD - Tape & Reel available:  
32mm Wide x 16mm Pitch, 500 pieces per 13" reel

### Other Delays and Tolerances Available Consult Sales

Specifications subject to change without notice.

#### Corporate Office

Bel Fuse Inc.  
198 Van Vorst Street, Jersey City, NJ 07302-4496  
Tel: 201-432-0463  
Fax: 201-432-9542  
E-Mail: BelFuse@belfuse.com  
Internet: <http://www.belfuse.com>

#### Far East Office

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San Po Kong  
Kowloon, Hong Kong  
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Fax: 852-2352-3706

#### European Office

Bel Fuse Europe Ltd.  
Preston Technology Management Centre  
Marsh Lane, Preston PR1 8UD  
Lancashire, U.K.  
Tel: 44-1772-556601  
Fax: 44-1772-888366