



# VTF series

## Flasher Modules for Automotive Applications

Safety Standards:

U.S.A.:

- SAE J 590 (turn signal)
- SAE J 945 (hazard warning)
- SAE J 2068 (turn signal/hazard warning)
- FMVSS 108 (all)

European:

Designed to meet ECO guideline 76/756 requirements.

### Features

- Combination turn signal and hazard warning signal flasher.(1)
- Meets all applicable U.S.A. safety standards.
- Stable electronic timing.
- VKP relay with PdCu contact for output.
- Fits ISO 7588 socket.
- Wide operating voltage and temperature range.

### Conditions

All parametric, environmental and life tests are performed according to EIA Standard RS407-A at standard test conditions (23°C Ambient, 20-50% RH, 29.5 ± 1.0" Hg.) unless otherwise noted.

### Contact Load Requirements @ 12.8VDC

Loads	Turn Signal Mode	Hazard Mode
	5 Lamp System	5 Lamp System
Rated Loads	5x27W + 1x3.5W + 1x1.3W	10x27W + 2x3.5W + 2x1.3W

### Flash Rate and Duty Cycle Data

Turn Signal Mode		Hazard Mode	
Normal Signal		Normal Signal	
FPM	Duty Cycle	FPM	Duty Cycle
70-110	35-55%	70-110	35-55%

### Operate Data

**Nominal Voltage:** 12VDC system.

**Operating Voltage Range:** 9 - 16VDC.

**Device Voltage Drop:** Less than 0.400 VDC at rated turn signal load.  
Less than 0.450 VDC at rated hazard signal load.

**Initial Turn-on Time:** Less than or equal to 50 msec.

**Start Time:** Less than 1.0 sec per FMVSS 108.

**Sound Pressure Level :** Min. 72 dbA at 1.0 meters.(2)

### Ordering Information

Part Number	Meets the Safety Standard of:	Flasher Type		Turn Signal Mode	Max. Number of Lamps	Lamp Outage Sensing
	U.S.A.	Turn	Turn/Hazard Warning	5 Lamp System	Hazard	No
VTF-11F31	X	X				
VTF-14F11	X		X	X	10	X

**Stock Items – The following items are normally maintained in stock for immediate delivery.**

Consult factory for availability.

### Environmental Data

**Operating Ambient Temperature Range:** -40°C to +85°C.

**Storage Ambient Temperature Range:** -40°C to +125°C.

**Shock:** 20g, 10 millisecond, half sine wave pulse.

**Vibration:** 10-40 Hz., 1.27mm double amplitude.  
40-70 Hz., 5g's constant.  
70-100 Hz., 0.5mm double amplitude.  
100-500 Hz., 10g's constant.

### Mechanical Data

**Termination:** 0.250" (6.35mm) quick connect.

**Enclosures:**

**Dust Cover:** Protects relay from dust.

**Cover Retention:** 50 pound (220 Newton) minimum.

**Weight:** 1.3 oz. (37g) approximately.

### Abnormal Operation

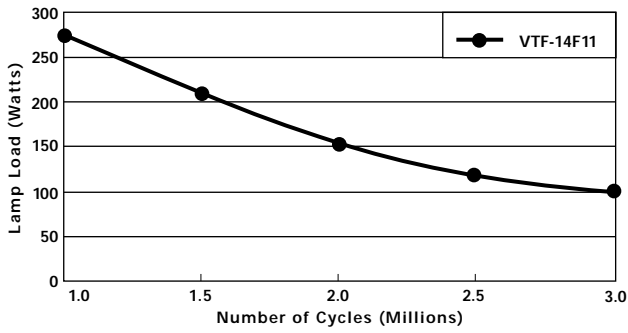
**Drop Test:** Capable of meeting specifications after a 3.28 foot (1.0 meter) drop onto concrete in final enclosure.

**Flammability:** UL94-HB or better (meets FMVSS 302).

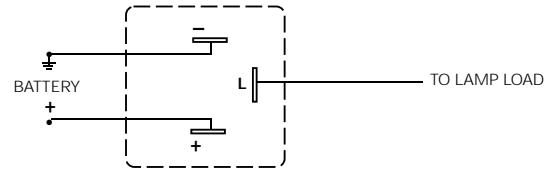
### Notes

- (1) Three lamp combination flashers with three terminals do not meet U.S. Federal motor vehicle safety requirements when lamp outage occurs during hazard mode operation. For more information consult factory.
- (2) The actual sound pressure is highly dependent on mounting method used.

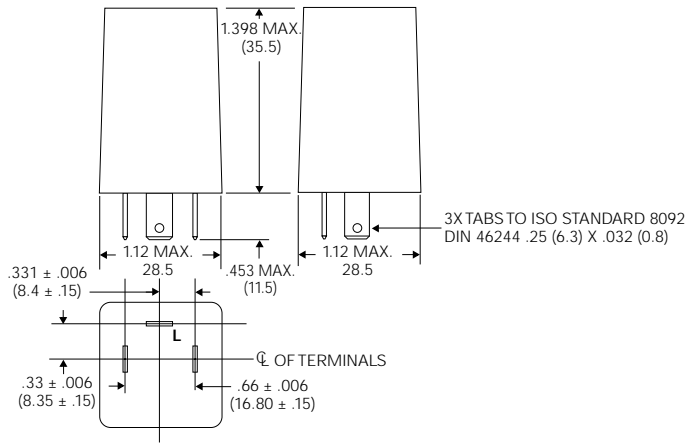
Figure 1 - Electrical Contact Life vs. Load Power



Wiring Diagram (Bottom View)

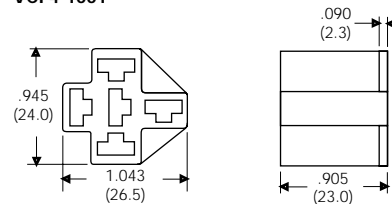


Outline Dimensions



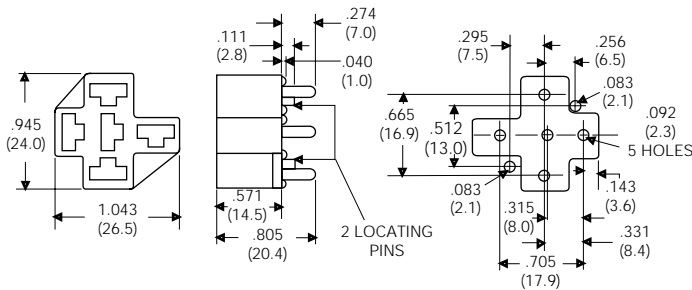
Connectors

Wiring Harness Style Connector  
(order terminals separately)  
VCF4-1001

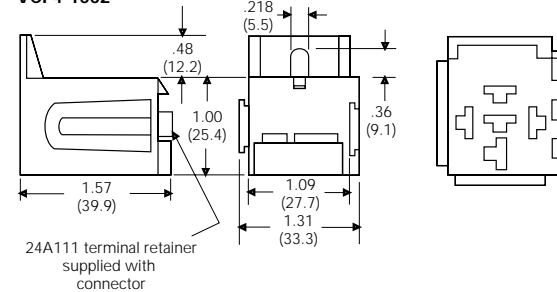


Sockets

PC Board Socket  
VCF4-1000



Wiring Harness Style, Bracket Mount Socket  
(order terminals separately)  
VCF4-1002



Connector/Terminal Usage Chart - Boldface items are stocked.

Connector	Required Crimp Terminals (Order Separately)			
	Terminal P/N	Alternate P/N	Wire AWG	Qty. Required
VCF4-1000	None	None	N/A	0
VCF4-1001	<b>26A1349A</b>	AMP 60249-1	12-16	3
	<b>26A1349B</b>	AMP 42281-1	14-18	
VCF4-1002	<b>26A1348A</b>	Packard 12015864	18-20	3
	<b>26A1348B</b>	Packard 12015865	14-16	
	<b>26A1348C</b>	Packard 12084588	10-12	