

CAMBRIDGE ELECTRONICS LABORATORIES
 20 Chester Street Telephone +1 617 629-2805
 Somerville MA 02144-3005 USA Telefax +1 617 623-1882

<www.camblab.com>

<camblab@attglobal.net>

===Preliminary November 15, 1999===

BLACK MAGIC TELEPHONE RINGING GENERATOR--LOW-POWER SINE WAVE MODEL LSN 12-86

=====OPERATING CHARACTERISTICS=====

Specification	Value	Remark
Input voltage (V_{dc}) >INPUT NOT PROTECTED AGAINST REVERSE POLARITY<	12	Operate: 11-13 V
Idle current (mA)	~95	
Output voltage (V_{rms})	-----86-----	
Output power (W)	5	Intermittent duty = 5 REN
Output frequency (Hz)	----N± 0.5---	N=16 Hz->66 to order; specify as final digits of order code e.g. LS128620 for 20 Hz
Load regulation (%)	-----± 4-----	
Efficiency (%)	~42/~46/~55	At loads 1 W/3 W/5 W
Operating temp. (° C)	-10-->+70	Wider temperature range available on special order
Storage temp. (° C)	-10-->+85	
Hi-pot test (2000 V_{dc})	Input-->output	

=====NOTES=====

- (1) Part numbering system: LSvvVvFF where vv is input voltage; VV is rms output voltage; FF is output frequency.
- (2) Standard models are encapsulated in epoxy resin UL-rated 94V-0. Applications requiring lower temperatures or rapid rates of temperature change may be well served by Tracon 3143 which may be ordered as part number LTvvVvFF. CEL does not warrant merchantability or fitness for a particular use of any encapsulant but will be pleased to furnish "on approval" samples for customer testing against his exact requirement.
- (3) Output is NOT PROTECTED against shorts; circuit must have series resistance of at least 300 Ω , normally part of ring-trip circuit. If the latter's current sensing resistor is less than 300 Ω , additional resistance must be added. Output is protected against transient overvoltages by internal zener clamp. Highly inductive loads may require conditioning.
- (4) Output will pass d.c. ring-trip bias only when unit is powered.

LSNSPEC.DOC-1 11-15-99

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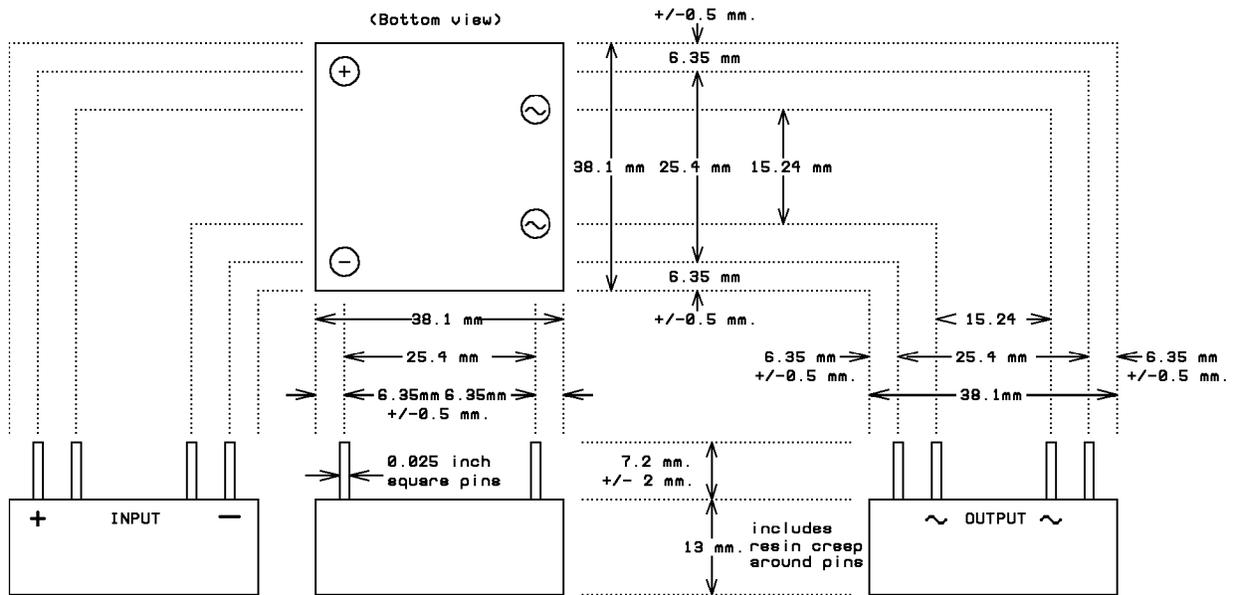
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 PHYSICAL CHARACTERISTICS AND MECHANICAL SPECIFICATIONS

=====PHYSICAL CHARACTERISTICS=====

Dimensions mm (in)

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Dimensions	Terminal spacing
Height 12.7 (0.50)	Output 15.24 (0.6)
Width 38.1 (1.50)	Input 25.40 (1.0)
Length 38.1 (1.50)	=====
=====	Weight: 40 grams (1.4 oz)

=====MECHANICAL SPECIFICATIONS=====



/LSNI.PIX

=====CONSTRUCTION AND MOUNTING=====

The Black Magic low-power sine wave ringing generator is monolithically encapsulated in water-proof epoxy UL-rated 94V-0 with terminals as 0.025 inch square pins. The unit is intended for direct solder-down to pcb or may be socketed with receptacles e.g. any receptacle using Mill-Max clips #1 or #47.