



DETECTOR SPECIFICATIONS DATA SHEET

January 9, 2001

MODEL: 407M58-43

DETECTOR TYPE: POD THERMALLY COMPENSATED

ELEMENT SIZE: 0.97 mm x 2.49 mm

ELEMENT MATERIAL: Lithium Tantalate

OPTICAL BANDWIDTH OF FILTER: HBW - 4.25 μ m to 4.35 μ m

RESPONSIVITY (TYP.): 1,374 V/W

NOISE (TYP.): 2.38 micro Volts (rms)

NEP (TYP.): 1.73×10^{-8} W/Hz

D STAR (TYP.): 9.08×10^7 cm \sqrt Hz/W

CHARACTERISTICS AT: 4.25 μ m to 4.35 μ m, 500°K, 1 Hz, 1 Hz BW, $R_I = 25^\circ\text{C}$, $R_s = 100,000\Omega$, $V = 8$ V DC.
Blackbody aperture = 2.22 cm, distance = 10 cm

OPERATING VOLTAGE (MIN. & MAX.): 3 to 15 V DC

OFFSET VOLTAGE (MIN. & MAX.): 0.30 to 1.20 V DC

CURRENT DRAW (MIN. & MAX.): 3.0 to 12.0 μ A

THERMAL BREAKPOINT (TYP.): 0.2 Hz

ELECTRICAL BREAKPOINT (TYP.): 0.1 Hz

$R_I = 6.5 \times 10^{10}\Omega$

RECOMMENDED OPERATING TEMPERATURE: -10 to +50°C

STORAGE TEMPERATURE: -55 to +125°C

Functional

Delta T < 50 C°/minute

OUTPUT POLARITY: Positive for a positive change

OUTPUT IMPEDANCE: $\leq R_s$

OUTPUT PROTECTION: Do not exceed a maximum drain current of 40 μ A.

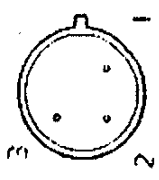
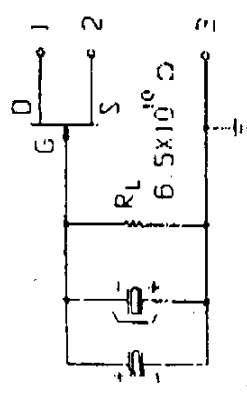
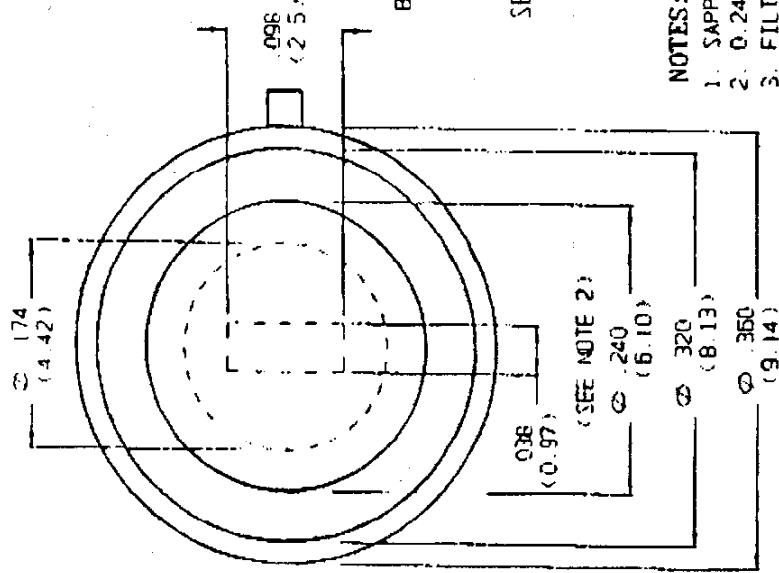
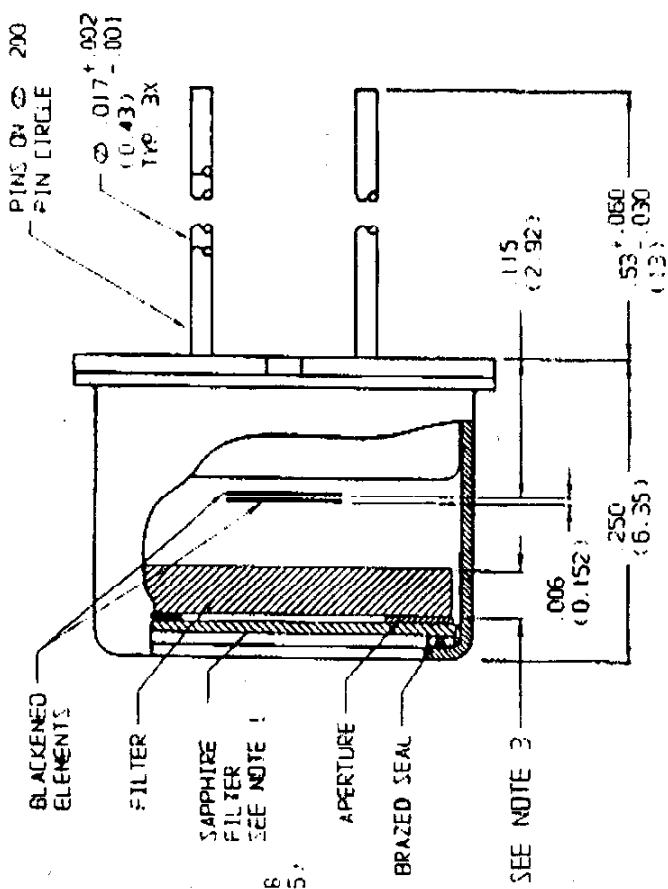
THERMAL SHOCK: The rate of temperature change must be kept to a minimum (<50C°/minute) to prevent damage to internal electronics.

(Data is established on a sample basis and is believed to be representative.)

ELTEC Instruments SA
Glärnischstr. 59
CH-8712 Stäfa
Switzerland
eltec@kuba.ch

MAY 14 2003

(388) 252-0411
Printed May 14, 2003



BOTTOM VIEW
(NO SCALE)

- NOTES:**
1. SAPPHIRE FILTER AND CAN HAVE BRAZED SEAL
 2. 0.240 DIA MIN. CLEAR APERTURE
 3. FILTER THICKNESS DEPENDENT ON TYPE. THIS MODEL ACCOMMODATES FILTERS .010 MIN TO .077 MAX THICK.
 4. OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.
 5. IF MODEL IS ORDERED WITHOUT THE FILTER, APERTURE WILL BE ELIMINATED.

PIN	DESIGNATION
1	V +
2	OUTPUT
3	CASE/GROUND

NOTICE: ELTEC INSTRUMENTS, INC. CLAIMS PROPRIETARY RIGHTS IN THE INFORMATION DISCLOSED IN THIS DRAWING. IT IS ISSUED IN CONFIDENCE FOR ENGINEERING INFORMATION ONLY AND MAY NOT, IN WHOLE OR IN PART, BE USED TO MANUFACTURE ANYTHING WHETHER OR NOT SHOWN HEREON, REPRODUCED OR DISCLOSED TO ANYONE WITHOUT DIRECT WRITTEN PERMISSION FROM ELTEC INSTRUMENTS, INC.

REV	ECN	DATE	DESCRIPTION	BY	CHK
A	1577	3-27-03	ADD NOTE #5	BLN	65

ELTEC INSTRUMENTS, INC.		MODEL 407M56	
Glarmschstr. 59		THERMALLY COMPENSATED	
CH-8712 Stäfa		PYROELECTRIC IR DETECTOR	
Switzerland		SIZE	REV
eltec@kuba.ch		A	A
DESIGN BY	RO	DWG. NO.	7800807
CHECKED BY	OP	FILE	7800807.DWG
APPROVED BY	LL	DATE	6.5.01
		PAGE	1 OF 1

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES (MM)

TOLERANCES

DECIMAL	FRACTIONAL
XX = +/- 0.10	+/- 1/64
XXX = +/- 0.05	ANGULAR
	+/- 1°

BREAK SHARP CORNERS