

| REV | DESCRIPTION OF CHANGE | ECO NO | CHG BY | DATE |
|-----|---------------------------|--------|--------|---------|
| A | ADD OPERATIONAL RANGE TOL | 1573 | H.A. | 1/14/99 |
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SENSING SYSTEMS ENGINEERING

**PRODUCT / CUSTOMER
SPECIFICATION**

FOR

SMC-1850, 15-1850 OMNI

P / N

10642

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Houston, Texas
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GEO SPACE CORPORATION
Houston, Texas U.S.A.

| | | |
|-----------------------------------|------------------------------------|------------------|
| DATE DWN. | <u>TITLE</u> | |
| 01/14/99 | SMC-1850, 15-1850 OMNI | |
| CHECK BY | SHEET 1 OF 3 | |
| APP. BY <i>H.A.</i> 1-14-99 | SPECIFICATION # S- 10642 | REV. A |

**PRODUCT/CUSTOMER
SPECIFICATION**

GEOPHONE MODEL: SMC-1850

PART NUMBER: 10642

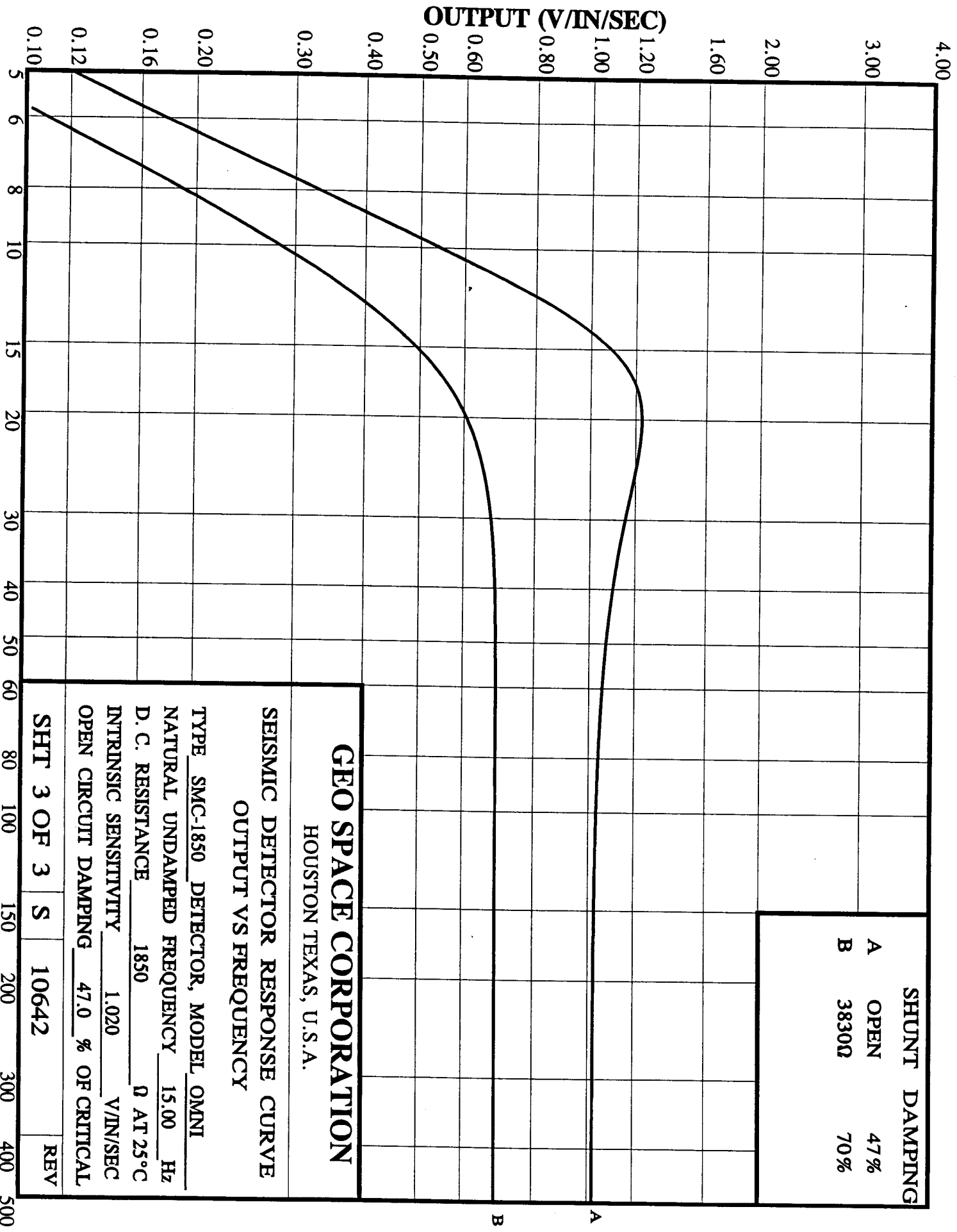
| <u>DESCRIPTION</u> | <u>SPECIFICATION @ 25°C</u> | <u>TOL</u> |
|---|--|--------------------------------------|
| OPTIMUM ORIENTATION OPERATIONAL RANGE | <u>HORIZ.</u> <u>0° TO 180° (OMNI)</u> | |
| NATURAL FREQUENCY (Fn) @ OPTIMUM ORIENTATION @ OPERATIONAL RANGE | <u>15 Hz</u> <u>15 Hz</u> | <u>± 5 %</u> <u>-5% to +15%</u> |
| COIL EXCURSION P-P @ OPTIMUM ORIENTATION @ OPERATIONAL RANGE | <u>>.120 in, >.305 cm</u> <u>>.022 in, >.056 cm</u> | |
| CLEAN BAND PASS (SPURIOUS RESPONSE) | <u>> 365 Hz</u> | |
| DC RESISTANCE | <u>1850 Ω</u> | <u>± 5 %</u> |
| INTRINSIC VOLTAGE SENSITIVITY (G) @ OPTIMUM ORIENTATION @ OPERATIONAL RANGE | <u>1.020 V/in/sec, 0.402 V/cm/sec</u> <u>1.020 V/in/sec, 0.402 V/cm/sec</u> | <u>± 5 %</u> <u>-15% to +5%</u> |
| NORMALIZED TRANSDUCTION CONSTANT Coil Resistance (R _c) <u>1850 Ω</u> | <u>.0237 √R_c V/in/sec</u> | |
| OPEN CIRCUIT DAMPING (B _o) @ OPTIMUM ORIENTATION @ OPERATIONAL RANGE | <u>.47</u> <u>.47</u> | <u>± 15 %</u> <u>-20% to +10%</u> |
| MOVING MASS (M) | <u>6.6 gr</u> | <u>± 5 %</u> |
| HARMONIC DISTORTION @ <u>15 Hz</u> WITH DRIVING VELOCITY OF <u>.7 in/sec (1.8 cm/sec) P-P</u> @ OPTIMUM ORIENTATION @ OPERATIONAL RANGE | <u>< .20 %</u> <u>< .90 %</u> | |
| DAMPING CONSTANT (B _r) | <u>1296</u> | |
| STORAGE TEMPERATURE | <u>- 40 to +100 °C</u> | |
| OPERATING TEMPERATURE | <u>- 40 to +200 °C</u> | |
| DIMENSIONS | | |
| WEIGHT | <u>1.520 oz, 44 gr</u> | |
| DIAMETER | <u>0.875 in, 2.22 cm</u> | |
| HEIGHT | <u>1.035 in, 2.63 cm</u> | |

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SHEET 2 OF 3

S-10642

A



| SHUNT DAMPING | |
|---------------|-----------|
| A | OPEN 47% |
| B | 3830Ω 70% |

GEO SPACE CORPORATION
HOUSTON TEXAS, U.S.A.

SEISMIC DETECTOR RESPONSE CURVE
OUTPUT VS FREQUENCY

TYPE SMC-1850 DETECTOR, MODEL OMNI
 NATURAL UNDAMPED FREQUENCY 15.00 Hz
 D. C. RESISTANCE 1850 Ω AT 25°C
 INTRINSIC SENSITIVITY 1.020 V/IN/SEC
 OPEN CIRCUIT DAMPING 47.0 % OF CRITICAL

SHT 3 OF 3 S 10642 REV