



GE Infrastructure Sensing

Product Specification



| | | | |
|-------------------------------|---------------------------|--|--------------------|
| PRODUCT NAME : ZTP-315 | | GE Infrastructure Sensing Korea | |
| PART NO. : 214001 | DR. Kyurull Jang | DATE | 04. Feb. 2004 |
| CUSTOMER : | CK. | DATE | |
| RELEASED DATE : | CK. | DATE | |
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1. FEATURE OF ZTP-315

1.1 THERMOPILE CHIP

| PARAMETER | LIMITS | | | Units | CONDITION |
|---------------------|-----------|----------|------|------------------------|------------|
| | Min | Typ | Max | | |
| Chip Size | 3.6 X 3.6 | | | mm ² | |
| Diaphragm Size | 2.6 X 2.6 | | | mm ² | |
| Active Area | 1.3 X 1.3 | | | mm ² | |
| Internal Resistance | 35 | 50 | 65 | kΩ | 25℃ |
| Resistance T.C | | | 0.12 | %/℃ | |
| Responsivity | 22 | 32 | 42 | V/W | 500K, 1Hz |
| Responsivity T.C | | -0.11 | | %/℃ | |
| Noise Voltage | | 30 | | nV rms | R.M.S, 25℃ |
| NEP | | 0.94 | | nW/Hz ^{1/2} | 500K, 1Hz |
| Detectivity | | 1.38 E08 | | cmHz ^{1/2} /W | 500K, 1Hz |
| Time Constant | | 25 | | ms | |

1.2 THERMISTOR

- Thermistor for Temperature Compensation

| Parameter | LIMITS | | | Units | Condition |
|--------------|--------|------|------|-------|--------------------------------|
| | Min | Typ | Max | | |
| Resistance | 29.7 | 30 | 30.3 | kΩ | Tol.:1%, @ 25℃ |
| Beta – Value | 3773 | 3811 | 3849 | K | Tol.:1%, Defined at 25℃/50℃ |

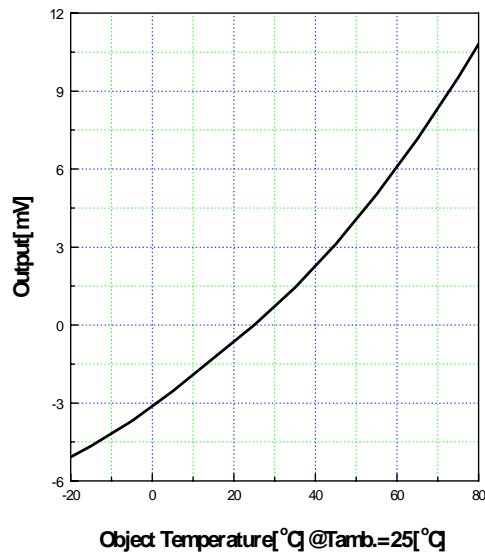
1.3 ABSOLUTE MAXIMUM RATINGS

- Operating Temperature : -20℃ ~ 100℃

- Storage Temperature : -40℃ ~ 120℃

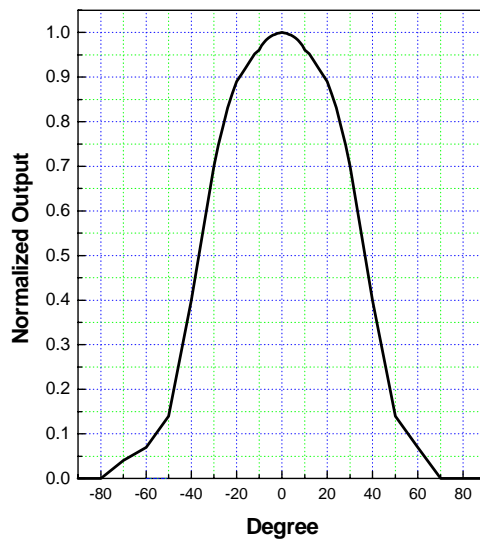
2. TYPICAL CHARACTERISTIC DATA OF ZTP-315

2.1 SENSITIVITY



2.2 FIELD OF VIEW

| Parameter | LIMITS | | | Units | Condition |
|---------------|--------|-----|-----|--------|-----------------------|
| | Min | Typ | Max | | |
| Field of View | 70 | 75 | 80 | Degree | 50% of Maximum Output |

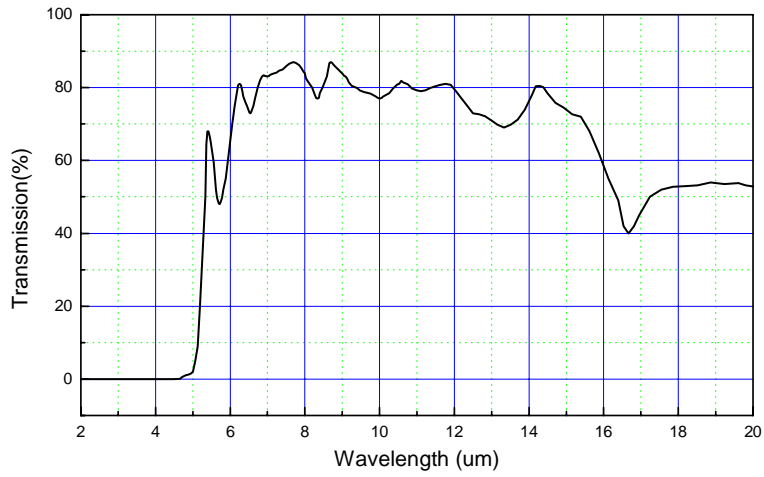




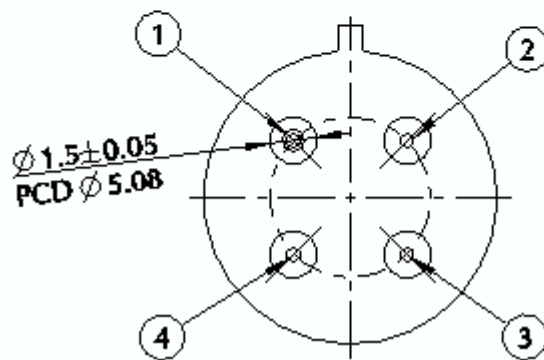
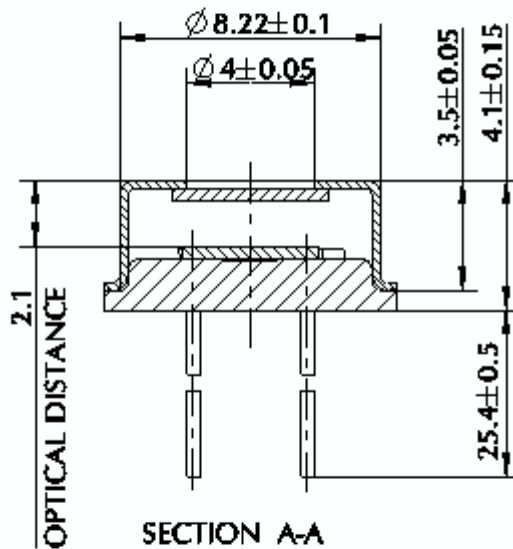
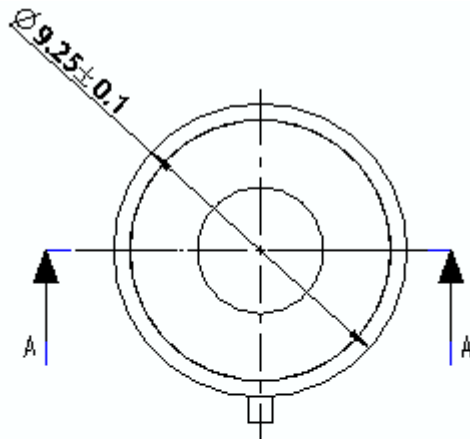
2.3 THERMISTOR RESISTANCE (R-T TABLE)

| Tamb.(℃) | Rmin(kΩ) | Rcent(kΩ) | Rmax(kΩ) |
|-----------|--------------|--------------|--------------|
| -40 | 847.1 | 885.1 | 924.7 |
| -35 | 624.2 | 650.2 | 677.2 |
| -30 | 464.0 | 481.9 | 500.5 |
| -25 | 348.0 | 360.3 | 373.1 |
| -20 | 263.1 | 271.7 | 280.5 |
| -15 | 200.6 | 206.5 | 212.7 |
| -10 | 154.1 | 158.3 | 162.5 |
| -5 | 119.3 | 122.2 | 125.2 |
| 0 | 93.03 | 95.06 | 97.12 |
| 5 | 73.07 | 74.48 | 75.91 |
| 10 | 57.78 | 58.76 | 59.75 |
| 15 | 46.00 | 46.67 | 47.34 |
| 20 | 36.85 | 37.30 | 37.76 |
| 25 | 29.70 | 30.00 | 30.30 |
| 30 | 23.98 | 24.27 | 24.57 |
| 35 | 19.47 | 19.75 | 20.03 |
| 40 | 15.89 | 16.15 | 16.42 |
| 45 | 13.04 | 13.28 | 13.53 |
| 50 | 10.76 | 10.98 | 11.20 |
| 55 | 8.914 | 9.112 | 9.314 |
| 60 | 7.420 | 7.598 | 7.780 |
| 65 | 6.202 | 6.362 | 6.526 |
| 70 | 5.204 | 5.348 | 5.495 |
| 75 | 4.383 | 4.512 | 4.644 |
| 80 | 3.704 | 3.820 | 3.938 |
| 85 | 3.141 | 3.244 | 3.350 |
| 90 | 2.670 | 2.763 | 2.858 |
| 95 | 2.277 | 2.359 | 2.444 |
| 100 | 1.946 | 2.019 | 2.095 |
| 105 | 1.667 | 1.732 | 1.800 |
| 110 | 1.430 | 1.489 | 1.550 |
| 115 | 1.230 | 1.282 | 1.336 |
| 120 | 1.058 | 1.105 | 1.153 |

2.4 TRANSMISSION DATA OF FILTER



3. OUTLINE OF SENSOR PACKAGE and PIN ARRANGEMENT [unit:mm]



- * Pin arrangement**
- 1 GND Thermistor
 - 2 Thermopile
 - 3 Thermistor
 - 4 GND Thermopile