

DESCRIPTION

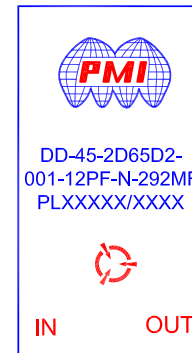
PMI MODEL: DD-45-2D65D2-001-12PF-N-292MF IS A LOW NOISE TUNNEL DIODE DETECTOR OPERATING OVER THE 2.6 TO 5.2 GHz FREQUENCY RANGE.

| REVISIONS | | | | |
|-----------|------|---------------|----------|----------|
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
| | - | PRELIMINARY | 9/24/19 | |
| | 1 | UPDATED SPECS | 10/15/19 | |
| | | | | |

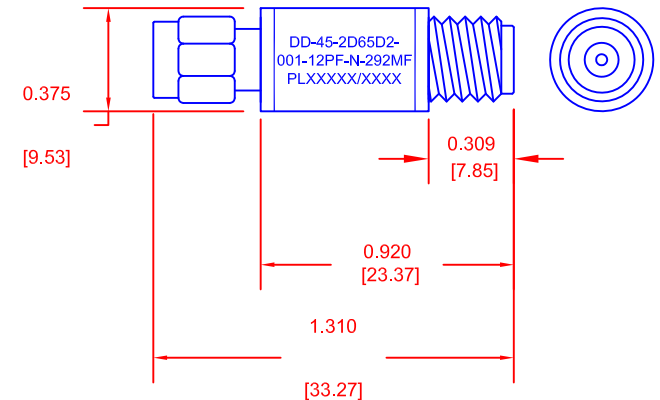
SPECIFICATIONS

- FREQUENCY RANGE: ----- 2.6 TO 5.2 GHz
- VOLTAGE SENSITIVITY: ----- 200 mV/mW MIN, 400 mV/mW TYP WITH 200 OHM LOAD (NOTE 2)
- FREQUENCY FLATNESS: ----- ± 1.0 dB MAX
- TANGENTIAL SENSITIVITY: ----- -45 dB MIN (NOTE 3)
- VIDEO RESISTANCE: ----- 80 OHMS TYP FOR RF POWER LEVEL BELOW -20 dBm
- OUTPUT CAPACITANCE: ----- +12 pF TYP
- OUTPUT VIDEO POLARITY: ----- NEGATIVE
- RF INPUT VSWR: ----- 4.0:1 MAX (NOTE 2)
- TEMPERATURE STABILITY: ----- ± 1.5 dB MAX OVER FREQUENCY AND TEMPERATURE (-55°C TO +100°C) (NOTE 2)
- MAXIMUM INPUT POWER: ----- 40 mW CW
- BIAS: ----- NO BIAS
- RISE TIME: ----- 50 ns MAX WITH 200 OHM LOAD
- CONNECTORS IN/OUT: ----- 2.92 mm MALE (SMA MALE COMPATIBLE)
2.92 mm FEMALE (SMA FEMALE COMPATIBLE)
- SIZE: ----- (L) 1.31" x $\varnothing 0.375$ "
- SEALING: ----- HARD EPOXY SEALED
- FINISH: ----- PASSIVATED STAINLESS STEEL

LABEL



MECHANICAL OUTLINE



ENVIRONMENTAL RATINGS

THE DETECTOR SHALL BE DESIGNED TO MEET SPECIFIED REQUIREMENTS AND PROVIDE REQUIRED PERFORMANCE UNDER ANY NATURAL COMBINATION OF THE SERVICE CONDITIONS SPECIFIED IN MIL-E-5400R AS SUMMARIZED BELOW.

- TEMPERATURE (AMBIENT AIR): ----- -54 °C TO +125 °C (CONTINUOUS OPERATION)
-62 °C TO +125 °C (STORAGE)
- VIBRATION: ----- MIL-E-5400R FIG2 CURVE VIa
5 TO 2000 Hz ± 0.1 INCH P-P OR ± 20 G
- SHOCK: ----- MIL-E-5400R 3.2.24.6.1
15G X 11 ± 1 ms, 3 TIMES X 6 DIRECTIONS
- HUMIDITY (NOTE 1): ----- MIL-E-5400R 3.2.24.4, 100% RH
- HARD EPOXY SEALED: ----- MIL-E-5400R TABLE 1 VIII
SEA LEVEL: 70,000 ft

ALL DIMENSIONS
ARE IN INCHES (mm)
TOLERANCES:
X.XX ± 0.020
X.XXX ± 0.010

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

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ISO 9001 CERTIFIED



| APPROVALS | | DATE | | TITLE | |
|-----------------|----------|-------------|--------|-------------------------------|--|
| DRAWN <i>EW</i> | | 9/24/19 | | PRODUCT FEATURE | |
| REDRAWN | | | | DD-45-2D65D2-001-12PF-N-292MF | |
| ISSUED | | | | | |
| SIZE | FSCM NO. | DWG NO. | REV. | | |
| A | 05XQ0 | PRELIMINARY | 1 | | |
| SCALE | N:S | SHEET | 1 OF 2 | | |

DESCRIPTION

PMI MODEL: DD-45-2D65D2-001-12PF-N-292MF IS A LOW NOISE TUNNEL DIODE DETECTOR OPERATING OVER THE 2.6 TO 5.2 GHz FREQUENCY RANGE.

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SCREENING, QUALITY ASSURANCE PROVISION

- PRESEAL INTERNAL VISUAL: ----- ALL DETECTORS SHALL BE SUBJECTED TO PRESEAL INTERNAL VISUAL INSPECTION IN ACCORDANCE WITH T.B.S.
- STABILIZATION BAKE: ----- ALL DETECTORS SHALL BE SUBJECTED TO STABILIZATION BAKE IN ACCORDANCE WITH MIL-STD-883, METHOD 1008, CONDITION B FOR 24 HOURS.
- THERMAL SHOCK: ----- ALL DETECTORS SHALL BE SUBJECTED TO THERMAL SHOCK IN ACCORDANCE WITH MIL-STD-202, METHOD 107D, CONDITION B.
- RANDOM VIBRATION: ----- ALL DETECTORS SHALL BE SUBJECTED TO RANDOM VIBRATION IN ACCORDANCE WITH MIL-STD-202, METHOD 214, CONDITION IIF.
- FINAL ELECTRICAL TEST: ----- FINAL ELECTRICAL TEST SHALL ASSURE THAT THE DETECTOR TESTED MEETS ALL ELECTRICAL REQUIREMENTS SPECIFIED IN ITEM 3.2. ITEMS MENTIONED BELOW MUST AT LEAST BE TESTED AT OPERATING TEMPERATURE, -54°C, +25°C, +100°C AND THIS DATA MUST BE INCLUDED IN THE FINAL ELECTRICAL TEST DATA.
TEST ITEMS; 3.2.1 TO 3.2.9
- EXTERNAL VISUAL INSPECTION: ----- ALL DETECTORS SHALL BE SUBJECTED TO EXTERNAL VISUAL INSPECTION IN ACCORDANCE WITH T.B.S.

TABLE 1

| TEST | METHOD | REQMT |
|-------------------------|-------------------------|-------|
| PRESEAL INTERNAL VISUAL | | 100% |
| STABILIZATION BAKE | 1008, COND. B, 24 HOURS | 100% |
| THERMAL SHOCK | 107D, COND. B | 100% |
| RANDOM VIBRATION | 214, COND. IIF | 100% |
| FINAL ELECTRICAL TEST | | 100% |
| EXTERNAL VISUAL | | 100% |

*NOTE 1: THE DETECTOR SHALL BE ABLE TO MEET ALL PERFORMANCE SPECIFIED IN ITEM 3.2 DURING AND AFTER EXPOSURE TO AN ATMOSPHERE OF UP TO 100% RELATIVE HUMIDITY, UNDER CONTINUOUS OPERATION TEMPERATURE RANGE.

*NOTE 2: FOR RF INPUT POWER LEVELS BELOW -20 dBm AND WITH AN OPEN CIRCUIT.

*NOTE 3: MEASURED WITH A VIDEO AMPLIFIER OF 1 MHz VIDEO BANDWIDTH AND 2 dB NOISE FIGURE.

ACCEPTANCE INSPECTION

ARTICLE 3.3 EXCEPT 3.3.3 AND ARTICLE 3.2.2 TO 3.2.9 OVER THE FREQUENCY.

ALL DIMENSIONS
ARE IN INCHES (mm)
TOLERANCES:
X.XX ±0.020
X.XXX ±0.010

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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|--------------------|----------------|---|-------------------|------------------------|--|--|-----------|
| | | TITLE PRODUCT FEATURE DD-45-2D65D2-001-12PF-N-292MF | | | | | |
| APPROVALS | DATE | | | | | | |
| DRAWN <i>EW</i> | <i>9/24/19</i> | | | | | | |
| REDRAWN | | SIZE A | FSCM NO. 05XQ0 | DWG NO. PRELIMINARY | | | REV. 1 |
| ISSUED | | SCALE N:S | | SHEET 2 OF 2 | | | |