

TITLE: SPECIFICATION CONTROL DRAWING

PART IDENTIFIER: SMT2010ALNF

DESCRIPTION: POWER STRIPLINE RESISTOR, ALUMINUM NITRIDE (THICK FILM), LEAD FREE

ASSEMBLY DWG: 1101984

1.0 SPECIFICATIONS:

1.1 ELECTRICAL:

- 1.1.1 IMPEDANCE: 50Ω NOMINAL.
- 1.1.2 FREQUENCY: DC - 2 GHZ.
- 1.1.3 VSWR: 1.25:1 MAX.
- 1.1.4 INPUT POWER:
 - 1.1.4.1 20 WATTS. CHIP SOLDERED TO MOUNTING SURFACE. MOUNTING SURFACE TEMPERATURE MAINTAINED AT 100 °C MAXIMUM. APPLY LINEAR DE-RATING OF INPUT POWER TO 0 WATTS AT 150 °C.

1.2 MECHANICAL:

- 1.2.1 OUTLINE DWG: SEE SHEET 2.
- 1.2.2 WORKMANSHIP: PER MIL-PRF-55342
- 1.2.3 THERMAL IMPEDANCE (R_{θ})
 - 1.2.3.1 2.500 °C / WATT R_{θ} FROM RESIST FILM TO MOUNTING SURFACE DIRECTLY UNDER CENTER OF CHIP. CHIP SOLDERED DIRECTLY TO MOUNTING SURFACE.
- 1.2.4 FILM TEMPERATURE (T_F)
 - 1.2.4.1 200 °C ABSOLUTE MAXIMUM FILM TEMPERATURE. DE-RATE TO 150 °C MAXIMUM FILM TEMPERATURE FOR ALL MILITARY/HIGH-RELIABILITY APPLICATIONS.
- 1.2.5 THERMAL
 - 1.2.5.1 DETERMINE MAXIMUM MOUNTING SURFACE TEMPERATURE BY APPLYING THE FOLLOWING FORMULA:
 $T_S = T_F - (P_{MAX} \times R_{\theta})$

WHERE: T_S = MAXIMUM MOUNTING SURFACE TEMPERATURE
 T_F = MAXIMUM FILM TEMPERATURE
 P_{MAX} = MAXIMUM APPLIED INPUT POWER
 R_{θ} = CHIP THERMAL IMPEDANCE.

1.3 ENVIRONMENTAL:

- 1.3.1 TEMPERATURE RANGE:
 - 1.3.1.1 NON-OPERATING: -55°C TO +150°C.
 - 1.3.1.2 OPERATING: -55°C TO +150°C.

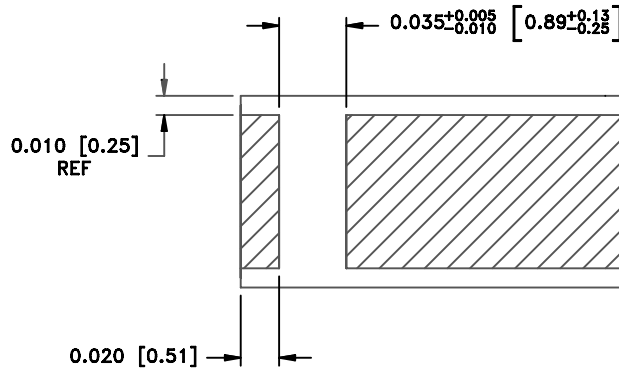
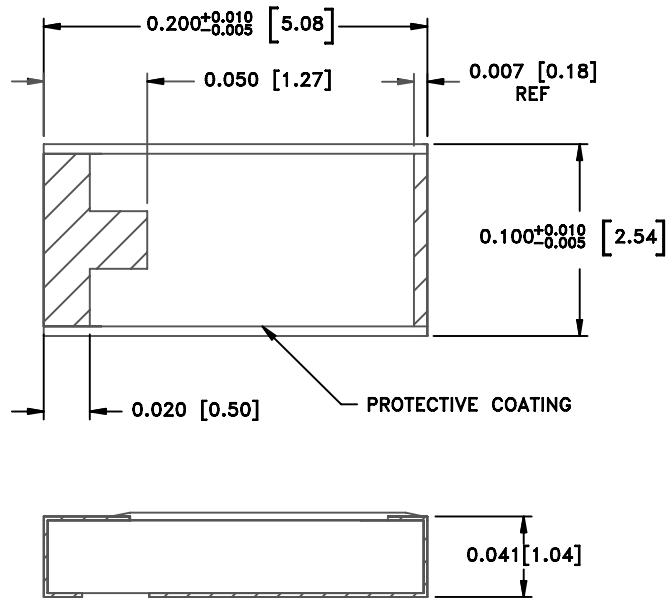
2.0 UNIT MARKING: NONE.

3.0 QUALITY ASSURANCE:

- 3.1 SAMPLE INSPECT PER ANSI/ASQC Z1.4 GENERAL INSPECTION, LEVEL II, AQL = 1.0.
 - 3.1.1 VISUAL AND MECHANICAL PER 824W154.
 - 3.1.2 DC RESISTANCE: 50Ω ± 5%.
- 3.2 DATA REQUIREMENTS:
 - 3.2.1 NO TEST DATA REQUIRED FOR CUSTOMER.
 - 3.2.2 DATA RETENTION – 24 MONTHS.

4.0 PACKAGING: STANDARD PACK PER 755W002.

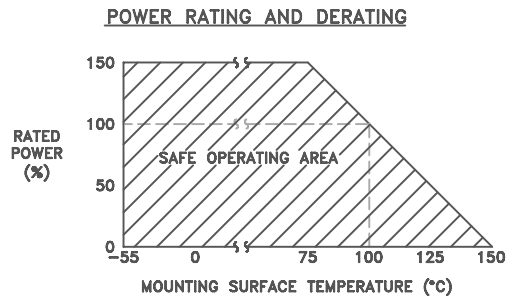
EMC TECHNOLOGY 8851 SW OLD KANSAS AVE. STUART, FL 34997	CAGE CODE # 24602		DWG #	1010605000
	CHANGE NOTICE	EN 10-1295	REV LVL	D
			SHEET	1 <u>OF</u> 2



MECHANICAL SPECIFICATIONS:

- SUBSTRATE:**
MATERIAL - ALUMINUM NITRIDE, MIL-I-10.
- TERMINALS:**
MATERIAL - THICK FILM, LEAD FREE PLATING.
ROHS COMPLIANT.
- RESIST:**
MATERIAL - THICK FILM.

METRIC EQUIVALENTS GIVEN IN [mm]
FOR REFERENCE INFORMATION ONLY



8851 SW OLD KANSAS AVE
STUART, FL 34997
PHONE NO. (772) 286-9300
FAX NO. (772) 283-5286

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACT --- --
ANG --- --
XX --- --
XXX ±0.005
XXXX --- --

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CAGE CODE	SCALE	DRAWN BY	CHECKED BY	APPROVED BY
24602	15:1	JG 11/15/10		
REV	CHANGE NOTICE	DRAWING NO	SHEET	
D	EN 10-1295	1010605000	2 OF 2	