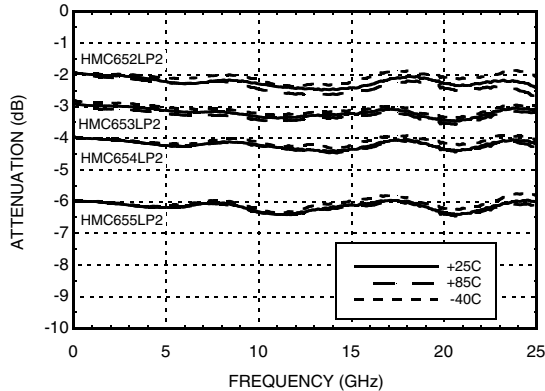
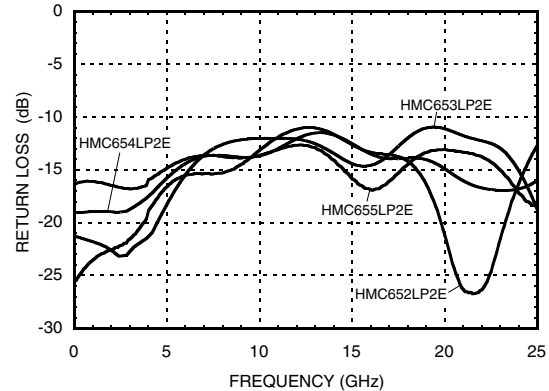


WIDEBAND FIXED ATTENUATOR FAMILY, DC - 25 GHz HMC652LP2E / HMC653LP2E / HMC654LP2E / HMC655LP2E

Attenuation vs. Temperature

Return Loss

Absolute Maximum Ratings

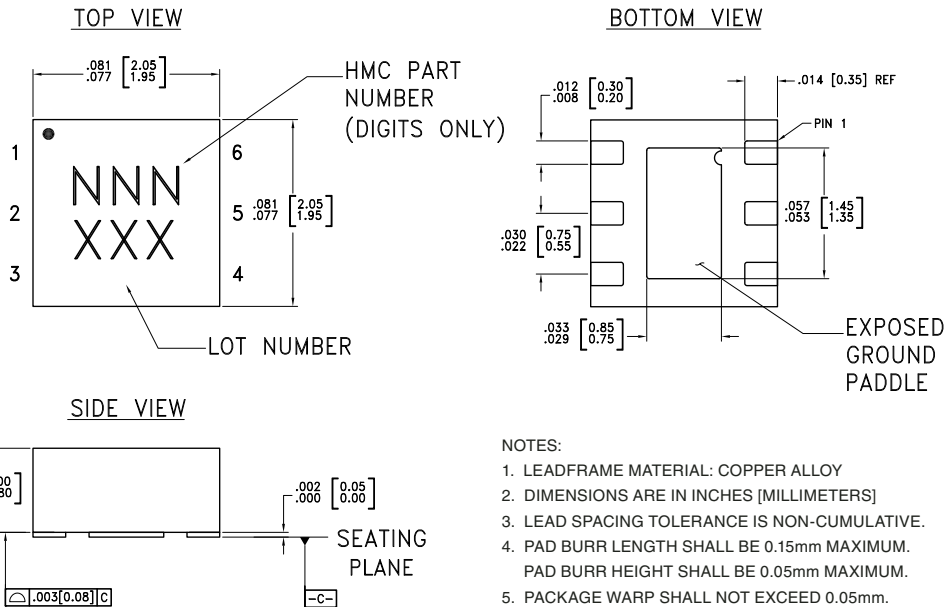
Part Number	HMC652LP2E	HMC653LP2E	HMC654LP2E	HMC655LP2E	Units
RF Input Power (CW)	27	26	25	26	dBm
DC Voltage Terminated	5.6	5.2	4.9	5.2	V
DC Voltage Open	5.6	5.1	4.6	6.0	V
Storage Temperature	-65 to +150				°C
Operating Temperature	-40 to +85				°C
ESD Sensitivity (HBM)	Class 1A	Class 1A	Class 1A	Class 1A	



**ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS**

WIDEBAND FIXED ATTENUATOR FAMILY, DC - 25 GHz
HMC652LP2E / HMC653LP2E / HMC654LP2E / HMC655LP2E

Outline Drawing



- NOTES:
1. LEADFRAME MATERIAL: COPPER ALLOY
 2. DIMENSIONS ARE IN INCHES [MILLIMETERS]
 3. LEAD SPACING TOLERANCE IS NON-CUMULATIVE.
 4. PAD BURR LENGTH SHALL BE 0.15mm MAXIMUM. PAD BURR HEIGHT SHALL BE 0.05mm MAXIMUM.
 5. PACKAGE WARP SHALL NOT EXCEED 0.05mm.
 6. ALL GROUND LEADS AND GROUND PADDLE MUST BE SOLDERED TO PCB RF GROUND.
 7. REFER TO HITTITE APPLICATION NOTE FOR SUGGESTED LAND PATTERN.

Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking ^[1]
HMC652LP2E through HMC655LP2E	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 ^[2]	NNN XXX

[1] 3-Digit lot number XXX

[2] Max peak reflow temperature of 260 °C

Pin Descriptions

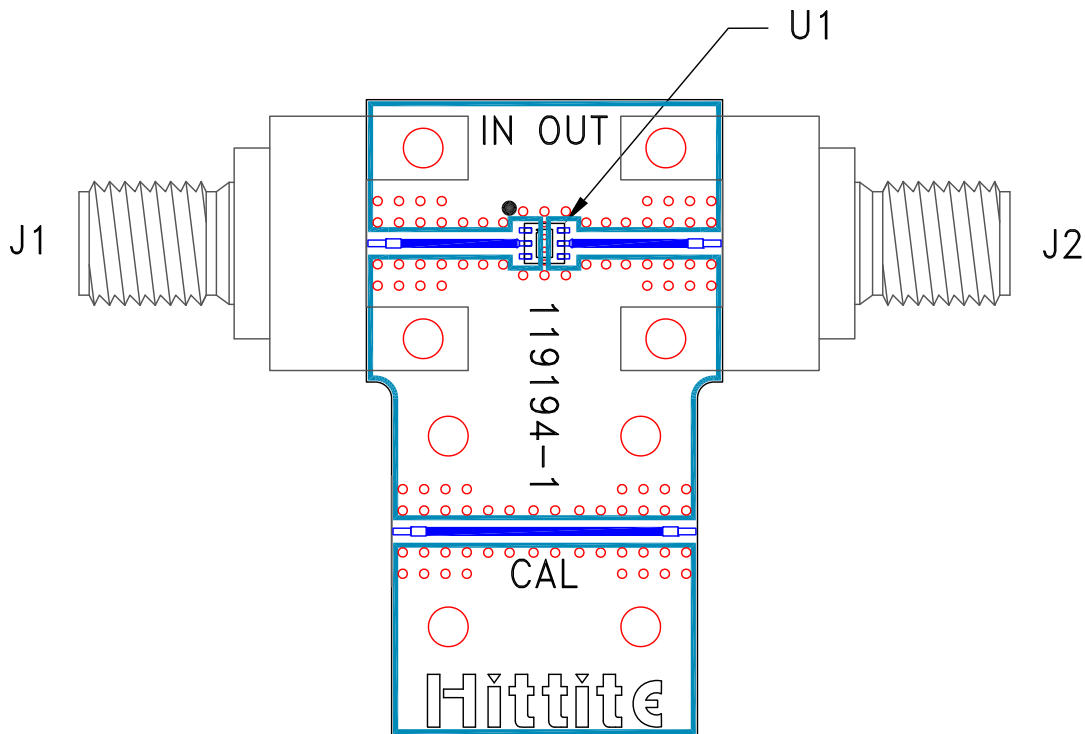
Pin Number	Function	Description	Interface Schematic
1, 3, 4, 6	GND	Package bottom must be connected to RF/DC ground.	
2, 5	RF1, RF2	This pin is DC coupled and matched to 50 Ohms. Use DC Blocking capacitors if the input / output signals have non-zero DC potential	

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WIDEBAND FIXED ATTENUATOR FAMILY, DC - 25 GHz HMC652LP2E / HMC653LP2E / HMC654LP2E / HMC655LP2E

Evaluation PCB



List of Materials for Evaluation PCB 119197 [1]

Item	Description
J1 - J2	PCB Mount K Connector
U1	HMC652LP2E through HMC655LP2E Passive Attenuators
PCB [2]	119194 Evaluation PCB

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Rogers 4350

The circuit board used in the final application should be generated with proper RF circuit design techniques. Signal lines at the RF port should have 50 ohm impedance and the package ground leads and exposed paddle should be connected directly to the ground plane similar to that shown above. The evaluation circuit board shown above is available from Hittite Microwave Corporation upon request.

Mouser Electronics

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