

Surface Mount

Monolithic Amplifier

NEW!

ERA-8SM

50Ω, Broadband, DC to 2 GHz



CASE STYLE : WW107

Features

- wide bandwidth, DC-2 GHz
- high gain, 31.5 dB at 100 MHz, reduces component count
- high power output, +12.5 dBm typ. at 1000 MHz
- low noise
- improved stability
- protection against power supply transients
- patent pending

Applications

- cellular
- PCS
- communication receivers & transmitters

Electrical Specifications @ 25°C

MODEL NO.	FREQ.* (GHz)	GAIN, dB Typical						MAXIMUM POWER (dBm) @1GHz		DYNAMIC RANGE @1GHz		VSWR (:1) Typ.				MAXIMUM RATING**		DC OPERATING POWER @ Pin 3***				THERMAL RESISTANCE		PRICE \$
		over frequency, GHz						Output (1dB Comp.) Typ.	Input (no dmg.) Typ.	NF (dB) Typ.	IP3 (dBm) Typ.	In DC-1 GHz	Out 1-4 GHz	DC-1 GHz	Out 1-4 GHz	I mA	P mW	Current (mA)	Device Volt	Typ	Min	Max	θjc, typ. °C/W	Qty. (25)
ERA-8SM	DC-2	31.5	25	19	15	12	17	12.5	13	3.1	25	1.4	1.8	1.8	2.2	65	250	36	3.7	3.2	4.2	140	1.22	

* Low frequency cutoff determined by external coupling capacitors.

** Permanent damage may occur if any of these limits are exceeded.

These ratings are not intended for continuous normal operation.

***Reliability predictions and normal operating conditions are applicable at current specified.

Maximum Ratings

Operating Temperature -45°C to 85°C

Storage Temperature -65°C to 150°C

Model Identification

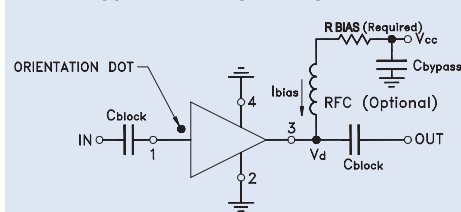
Model	Marking†
ERA-8SM	E8

† Prefix letter (optional) designates assembly location. Suffix letters (optional) are for wafer identification.

Pin Configuration

RF IN	1
RF OUT	3
DC	3
GND EXT.	2,4

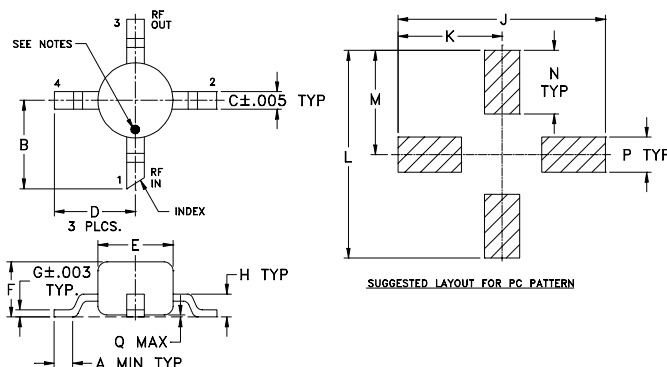
Typical Biasing Configuration



Resistor Values

Vcc	"1%" Res.
7	88.7
8	118
9	143
10	174
11	200
12	226
13	255
14	280
15	309

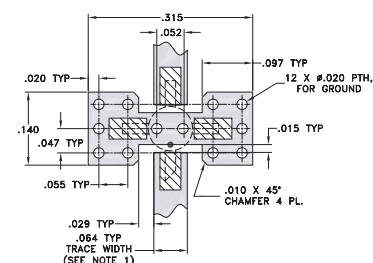
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	wt. grams
.012	.10	.020	.092	.085	.060	.007	.026	.235	.118	.235	.118	.072	.040	.020	.015
.30	2.54	.51	2.34	2.16	1.52	.18	.66	5.97	3.00	5.97	3.00	1.83	1.02	0.51	.015

Suggested PCB Layout (PL-075)



NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.030" ± 0.002", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. IF YOUR PCB DESIGN RULES ALLOW, GROUND VIAS SHOULD BE PLACED UNDER THE LAND PATTERN FOR BETTER RF PERFORMANCE. OTHERWISE GROUND VIAS SHOULD BE PLACED AS CLOSE TO LAND PATTERN AS POSSIBLE.

□ DENOTES PCB COPPER LAYOUT

▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK



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