

MONOLITHIC AMPLIFIERS

50Ω

BROADBAND DC to 8 GHz



low power, up to +13.5 dBm output

all specifications at 25°C

MODEL NO.◆	* FREQ. GHz	GAIN, dB Typical										MAXIMUM POWER (dBm) at 2 GHz*		DYNAMIC RANGE at 2 GHz*		VSWR (:1) Typ.				ABSO- LUTE MAX. RATING ³		DC OPERATING POWER ⁴ at Pin 3				THERMAL RESIS- TANCE		CASE STYLE		C ONN ECT ION	PRICE \$																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		over frequency, GHz										Output (1 dB Comp.) Typ.	Input (no dmg) Typ.	NF (dB) Typ.	IP3 (dBm) Typ.	In DC-3 GHz	3-f _u ** GHz	Out DC-3 GHz	3-f _u ** GHz	I (mA)	P (mW)	Current (mA)	Volt.			θjc Typ. °C/W	(Note B)	Qty. (30)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		0.1	1	2	3	4	6	8	Min.@ 2 GHz	Flatness DC- 2 GHz	Typ												Min	Max	Typ				Min			Max																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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features

- low thermal resistance
- miniature microwave amplifier
- available in drop-in & surface mount (sm) versions
- frequency range, DC to 8 GHz, usable to 10 GHz
- up to 18.5 dBm typ. (16.5 dBm min) output power

absolute maximum ratings

operating temperature: -45°C to 85°C

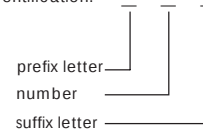
storage temperature: -65° to 150°C

model identification

Model marking (see note below)

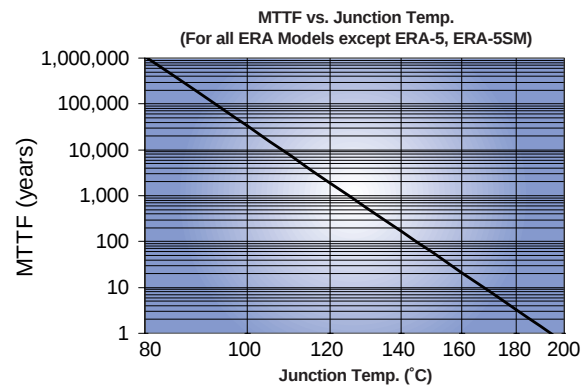
ERA-1, ERA-1SM	1
ERA-2, ERA-2SM	2
ERA-21SM	21
ERA-3, ERA-3SM	3
ERA-33SM	33
ERA-4, ERA-4SM	4
ERA-5, ERA-5SM	5
ERA-50SM	50
ERA-51SM	51
ERA-6, ERA-6SM	6

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



NOTES:

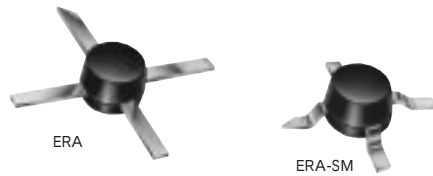
- ◆ Aqueous washable
- * at 1 GHz for ERA-4,5,6, 4SM, 5SM, 50SM, 51SM, 6SM
- ** f_u is the upper frequency limit for each model as shown in the table.
- *** Gain, gain flatness, and VSWR are specified at 1.5 GHz.
- ⊛ Low frequency cutoff determined by external coupling capacitors.
- A. Environmental specifications and re-flow soldering information available in General Information Section.
- B. Units are non-hermetic unless otherwise noted. For details on case dimensions & finishes see "Case Styles & Outline Drawings".
- C. Prices and Specifications subject to change without notice.
- D. For Quality Control Procedures see Table of Contents, Section 0, "Mini-Circuits Guarantees Quality" article. For Environmental Specifications see Amplifier Selection Guide.
1. Model number designated by alphanumeric code marking.
2. ERA-SM models available on tape and reel.
3. Permanent damage may occur if any of these limits are exceeded. These ratings are not intended for continuous normal operation.
4. Supply voltage must be connected to pin 3 through a bias resistor in order to prevent damage. See "Biasing MMIC Amplifiers" in minicircuits.com/application.html. Reliability predictions are applicable at specified current & normal operating conditions.



Distribution Centers NORTH AMERICA 800-654-7949 • 417 335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

ISO 9001 CERTIFIED

Drop-In & Surface Mount

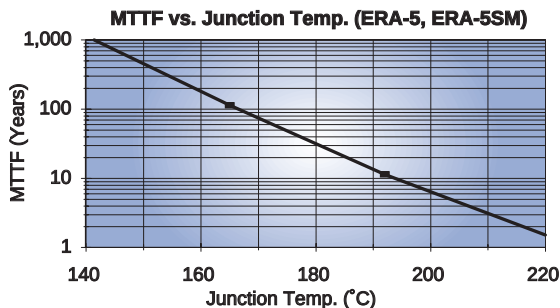
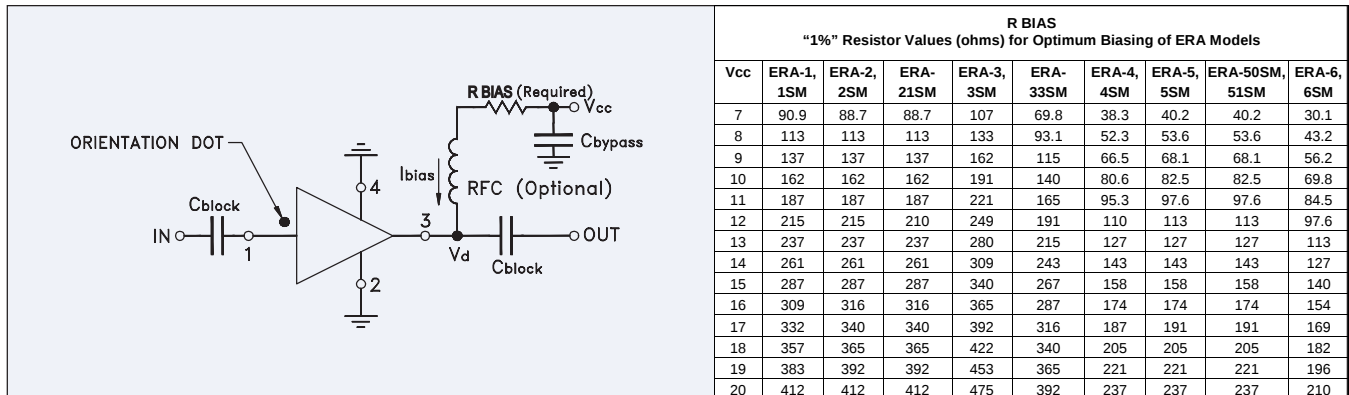


medium power, up to +18.4 dBm output

all specifications at 25°C

MODEL NO.◆	* FREQ. GHz	GAIN, dB Typical										MAXIMUM POWER (dBm) at 2 GHz*			DYNAMIC RANGE at 2 GHz*		VSWR (:1) Typ.				ABSO- LUTE MAX. RATING ³		DC OPERATING POWER ⁴ at Pin 3				THERMAL RESIS- TANCE	CASE STYLE	C ONN ECT ION	PRICE \$	
		over frequency, GHz								Flatness Min.@ DC- 2 GHz	Output (1 dB Comp.) Typ.	Input (no dmg) Min.	NF (dB) Typ.	IP3 (dBm) Typ.	In DC-3 GHz	3-f ^{**} GHz	Out DC-3-f ^{**} GHz	I (mA)	P (mW)	Current (mA)	Volt. Typ	Min	Max	θjc Typ. °C/W	Note B						
		0.1	1	2	3	4	6	8																							
		f _c - f _u																													Qty. (30)
NEW ERA-6SM ERA-4SM ERA-51SM ERA-5SM ERA-50SM***	ERA-6	DC-4	12.6	12.5	12.2	11.7	11.3	—	—	10.5	±0.2	17.9	16	20	4.5	36	1.3	1.2	1.6	1.8	120	650	70	5.0	4.6	5.6	170	VV105	cb	3.85	
	ERA-4	DC-4	14.3	14.0	13.4	12.7	11.8	—	—	11	±0.4	17.3	15	20	4.2	34	1.2	1.2	1.3	1.8	120	650	65	4.5	4.2	5.5	163	VV105	cb	3.85	
	ERA-5	DC-4	20.2	19.5	18.5	17.3	16.2	—	—	16	±1.0	18.4	16.5	13	4.3	32.5	1.3	1.3	1.2	1.3	120	650	65	4.9	4.2	5.5	278	VV105	cb	3.85	
	ERA-6SM	DC-4	12.6	12.5	12.2	11.7	11.3	—	—	10.5	±0.2	17.9	16	20	4.5	36	1.3	1.2	1.6	1.8	120	650	70	5.0	4.6	5.6	175	WW107	cb	3.90	
	ERA-4SM	DC-4	14.3	14.0	13.4	12.7	11.8	—	—	11	±0.4	17.3	15	20	4.2	34	1.2	1.2	1.3	1.8	120	650	65	4.5	4.2	5.5	168	WW107	cb	3.90	
	ERA-51SM	DC-4	18.0	17.4	16.1	14.8	12.5	—	—	14	±1.0	18.1	16.5	13	4.1	33	1.1	1.2	1.2	1.9	120	650	65	4.5	4.2	5.5	154	WW107	cb	3.90	
	ERA-5SM	DC-4	20.2	19.5	18.5	17.3	16.2	—	—	16	±1.0	18.4	16.5	13	4.3	32.5	1.3	1.3	1.2	1.3	120	650	65	4.9	4.2	5.5	283	WW107	cb	3.90	
	ERA-50SM***	DC-1.5	20.7	19.4	18.3	—	—	—	—	16	±1.2	17.2	16.0	13	3.5	32.5	1.3	—	1.2	—	120	650	60	4.4	4.0	4.9	177	WW107	cb	2.95	

typical biasing configuration



designers kits available

KIT NO.	Model Type	No. of Units in Kit	Description	Price \$ per kit
K1-ERA	ERA	30	10 of each 1,2,3	49.95
K2-ERA	ERA	20	10 of each 4,5	69.95
K1-ERASM	ERA-SM	30	10 of each 1SM, 2SM, 3SM	49.95
K2-ERASM	ERA-SM	20	10 of each 4SM, 5SM	69.95
K3-ERASM	ERA-SM	30	10 of each 4SM, 5SM, 6SM	99.95

pin connections

PORT	cb
RF IN	1
RF OUT	3
DC	3
CASE GND	2,4
NOT USED	—

NSN GUIDE

MCL NO.	NSN
ERA-1SM	5962-01-459-9075
ERA-2SM	5962-01-459-7410
ERA-3SM	5962-01-459-9314