

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

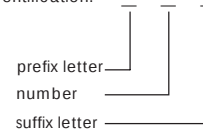
storage temperature: -65° to 150°C

model identification

Model marking (see note below)

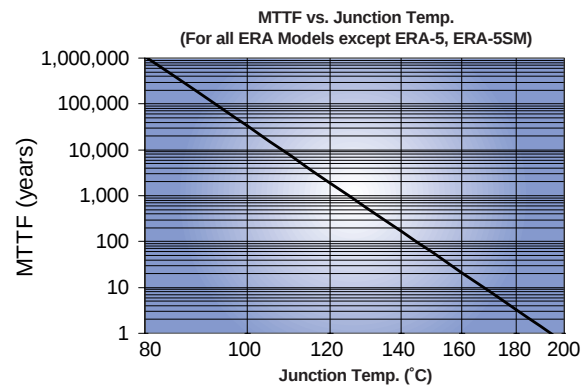
ERA-1, ERA-1SM	1
ERA-2, ERA-2SM	2
ERA-21SM	21
ERA-3, ERA-3SM	3
ERA-33SM	33
ERA-4, ERA-4SM	4
ERA-5, ERA-5SM	5
ERA-50SM	50
ERA-51SM	51
ERA-6, ERA-6SM	6

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



NOTES:

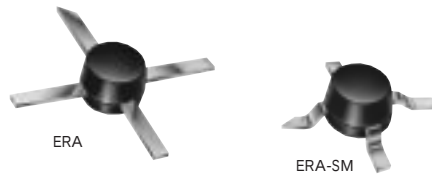
- ◆ Aqueous washable
- * at 1 GHz for ERA-4,5,6, 4SM, 5SM, 50SM, 51SM, 6SM
- ** f_u is the upper frequency limit for each model as shown in the table.
- *** Gain, gain flatness, and VSWR are specified at 1.5 GHz.
- ⊛ Low frequency cutoff determined by external coupling capacitors.
- A. Environmental 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

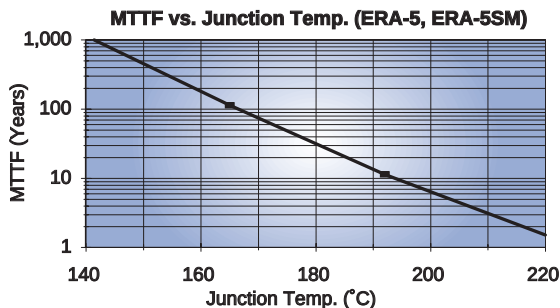
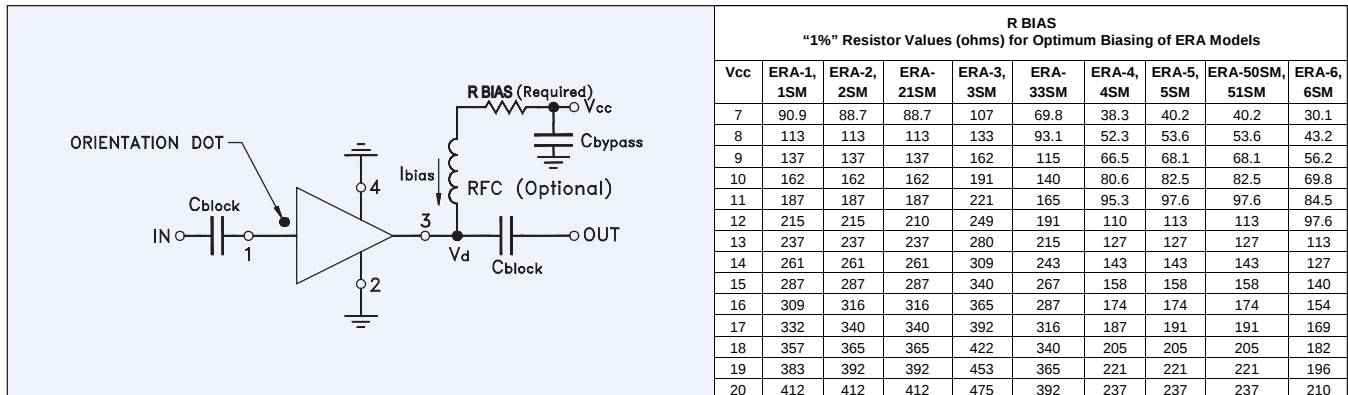


medium power, up to +18.4 dBm output

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 ONNE CTION	PRICE \$	
		over frequency, GHz								Min.@ 2 GHz	Flatness 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