

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	CON- NECT- ION		
		over frequency, GHz										Output (1 dB Comp.) Typ.	Input (no dmg) Min.		NF (dB) Typ.	IP3 (dBm) Typ.	In			Out		Current (mA)	Volt.				θ _{jc} Typ. °C/W	
		f ₁ - f ₂	0.1	1	2	3	4	6	8	Min. @ 2 GHz	Flatness DC- 2 GHz						DC-3 3-f ₁ **	DC-3 3-f ₁ **		I	P		Typ					Min
ERA-1	DC-8	12.3	12.1	11.8	10.9	9.7	7.9	8.2	9	±0.3	12.0	10.0	15	4.3	26	1.5	1.8	1.5	1.9	75	330	40	3.4	3.0	4.1	178	VV105	cb
ERA-2	DC-6	16.2	15.8	15.2	14.4	13.1	11.2	—	13	±0.5	13.0	11.0	15	4.0	26	1.3	1.4	1.2	1.6	75	330	40	3.4	3.0	4.1	155	VV105	cb
ERA-3	DC-3	22.1	21.0	18.7	16.8	—	—	—	16	±1.7	12.5	9	13	3.5	25	1.5	—	1.4	—	75	330	35	3.2	3.0	4.1	154	VV105	cb
ERA-1SM	DC-8	12.3	12.1	11.8	10.9	9.7	7.9	8.2	9	±0.3	12.0	10.0	15	4.3	26	1.5	1.8	1.5	1.9	75	330	40	3.4	3.0	4.1	183	WW107	cb
NEW ERA-21SM	DC-8	14.2	13.9	13.2	12.2	10.8	8.7	8.9	11.2	±0.5	12.6	10.6	15	4.7	26	1.1	1.4	1.3	1.9	75	330	40	3.5	3.0	4.1	194	WW107	cb
ERA-2SM	DC-6	16.2	15.8	15.2	14.4	13.1	11.2	—	13	±0.5	13.0	11.0	15	4.0	26	1.3	1.4	1.2	1.6	75	330	40	3.4	3.0	4.1	160	WW107	cb
NEW ERA-33SM	DC-3	19.3	18.7	17.4	15.9	—	—	—	15	±0.9	13.5	11.5	13	3.9	28.5	1.6	—	1.25	—	75	330	40	4.3	3.8	4.8	140	WW107	cb
ERA-3SM	DC-3	22.1	21.0	18.7	16.8	—	—	—	16	±1.7	12.5	9	13	3.5	25	1.5	—	1.4	—	75	330	35	3.2	3.0	4.1	159	WW107	cb

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

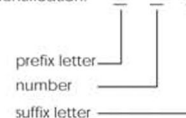
absolute maximum ratings

operating temperature: -45°C to 85°C
storage temperature: -65°C to 150°C

model identification

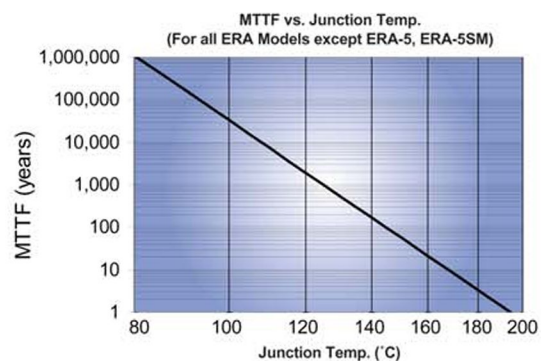
Model	marking (see note below)
ERA-1, ERA-1SM	1
ERA-2, ERA-2SM	2
ERA-21SM	21
ERA-3, ERA-3SM	3
ERA-33SM	33
ERA-4, ERA-4SM	4
ERA-5, ERA-5SM	5
ERA-50SM	50
ERA-51SM	51
ERA-6, ERA-6SM	6

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



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Drop-In & Surface Mount

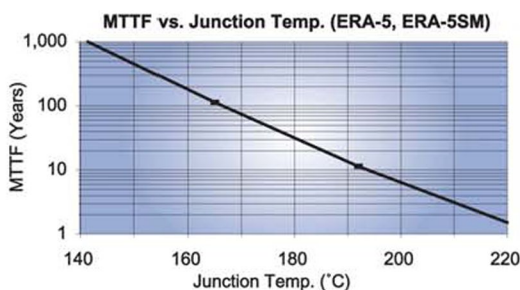
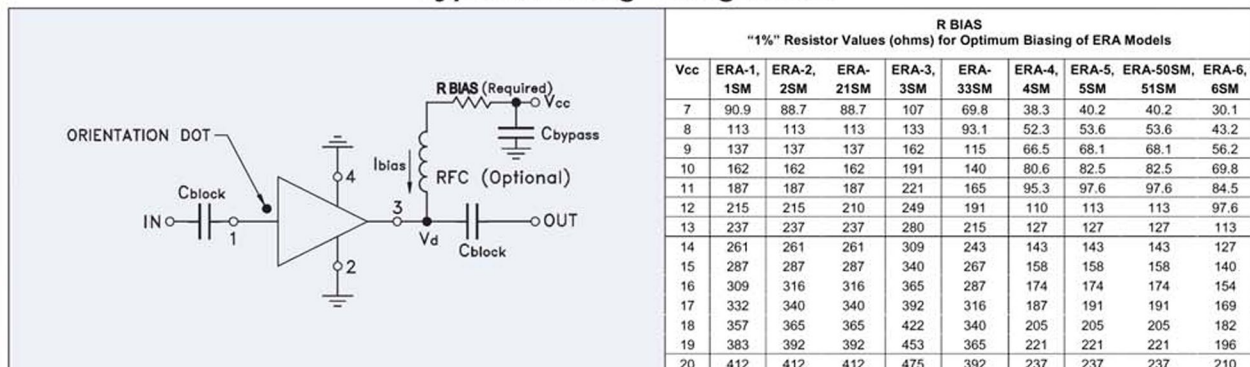


medium power, up to +18.4 dBm output

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.		ABSOLUTE MAX. RATING ³		DC OPERATING POWER ⁴ at Pin 3			THERMAL RESIS- TANCE	CASE STYLE	CON- NEC- TION				
		over frequency, GHz								Output (1 dB Comp.)	Input (no dmg)	NF (dB)	IP3 (dBm)	In GHz	Out GHz	I (mA)	P (mW)	Current (mA)	Volt. Typ	Max	θ_{jc} Typ °C/W						
		0.1	1	2	3	4	6	8	Min. @ 2 GHz	Flatness DC- 2 GHz	Typ.	Min.	Typ.	Typ.	DC-3 GHz	3-1** GHz	DC-3 1-1** GHz	GHz							Note B		
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
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
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
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
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
NEW 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
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
NEW 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

typical biasing configuration



designers kits available

KIT NO.	Model Type	No. of Units in Kit	Description
K1-ERA	ERA	30	10 of each 1,2,3
K2-ERA	ERA	20	10 of each 4,5
K1-ERASM	ERA-SM	30	10 of each 1SM, 2SM, 3SM
K2-ERASM	ERA-SM	20	10 of each 4SM, 5SM
K3-ERASM	ERA-SM	30	10 of each 4SM, 5SM, 6SM

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