

### GENERAL DESCRIPTION

This device is specifically designed for collector modulated operation in the VHF AM applications in the 100-150 MHz range.

**VAM 80**  
**80 WATTS PEAK - 27 VOLTS**  
**100-150 MHz**

### VHF COMMUNICATIONS

#### ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature 85 W

#### Maximum Voltage and Current

BVces Collector to Emitter Voltage 60 V

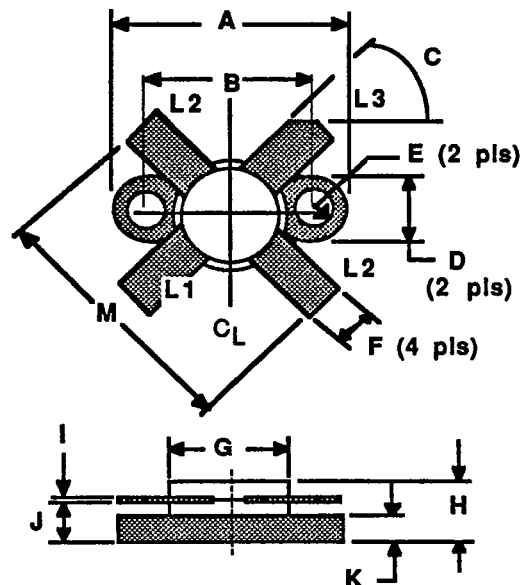
BVebo Emitter to Base Voltage 4.0 V

ic Collector Current 8.5 A

#### Maximum Temperatures

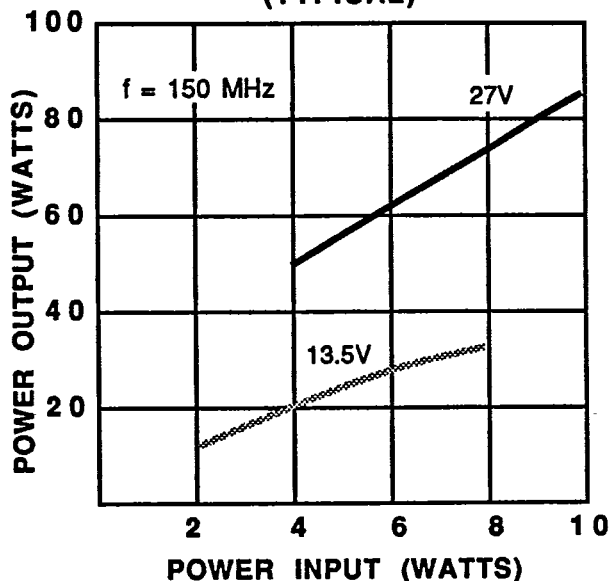
Storage Temperature -65 to +150 °C

Operating Junction Temperature +200 °C



DIM	Millimeter	TOL	Inches	TOL
L1 : B				
L2 : E				
L3 : C				
A	24.76	.13	.975	.005
B	18.42	.13	.725	.005
C	45°	5°	45°	5°
D	6.35	.13	.250	.005
E	3.17 DIA	.13	.125 DIA	.005
F	5.71	.13	.225	.005
G	12.70 DIA	.13	.500 DIA	.005
H	6.60	REF	.260	REF
I	0.13	.02	.005	.001
J	4.19	.13	.165	.005
K	2.59	.13	.102	.005
M	25.40	.25	1.000	.010

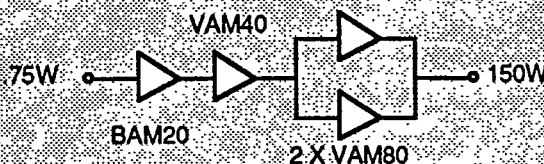
#### POWER OUTPUT VS POWER INPUT (TYPICAL)



#### TYPICAL AMPLIFIER LINE UP

Vcc = 27 Volts

Frequency Range = 100-150 MHz



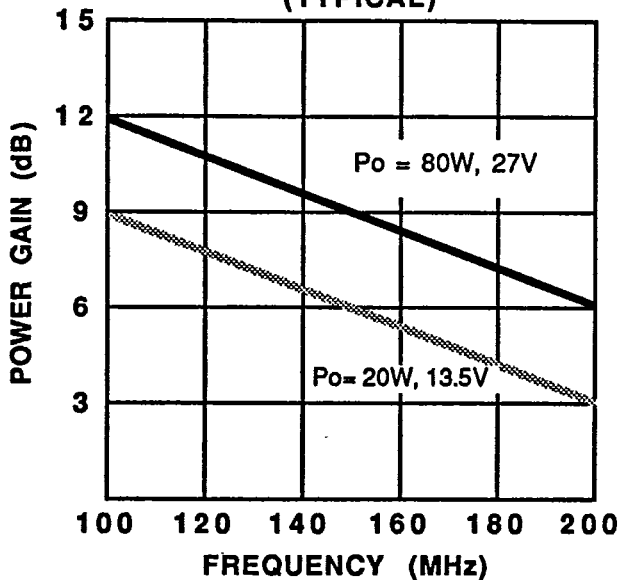
**VAM 80-2**

**ELECTRICAL CHARACTERISTICS<sup>1</sup>**

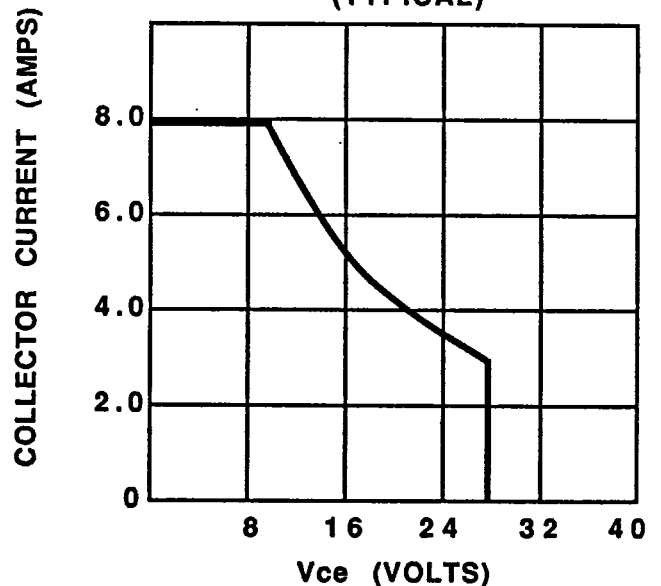
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P <sub>out</sub>	Power Output	f= 150 MHz V <sub>cc</sub> = 27 V, 1 KHZ, 50%	80			Watts
P <sub>in</sub>	Power Input				10	Watts
P <sub>g</sub>	Power Gain			10		dB
P <sub>out</sub>	Power Output	f= 150 MHz V <sub>cc</sub> = 13.5 V	20			Watts
P <sub>in</sub>	Power Input				5.0	Watts
P <sub>g</sub>	Power Gain			7.0		dB
η <sub>c</sub>	Collector Efficiency			65		%
VSWR	Load Mismatch Tolerance	V <sub>cc</sub> = 13.5, P <sub>o</sub> = 20W			∞:1	
B <sub>Vebo</sub>	Breakdown Voltage (Emitter to Base)	I <sub>e</sub> = 0A, I <sub>c</sub> = 5mA	4.0			Volts
B <sub>Vces</sub>	Breakdown Voltage (Collector to Emitter)	V <sub>be</sub> = 0A, I <sub>c</sub> = 20mA	60			Volts
B <sub>Vceo</sub>	Breakdown Voltage (Collector to Emitter)	I <sub>b</sub> = 0A, I <sub>c</sub> = 50mA	32			Volts
C <sub>ob</sub>	Capacitance-Collector to Base	V <sub>cb</sub> = 28V, f= 1MHz			75	pF
h <sub>FE</sub>	DC-Current Gain	V <sub>ce</sub> = 5V, I <sub>c</sub> = 1A	10			
θ <sub>jc</sub>	Thermal Resistance				2.0	°C/W

Note 1: T<sub>c</sub> = +25°C unless otherwise specified

**POWER GAIN VS FREQUENCY (TYPICAL)**



**DC SAFE OPERATING AREA (TYPICAL)**

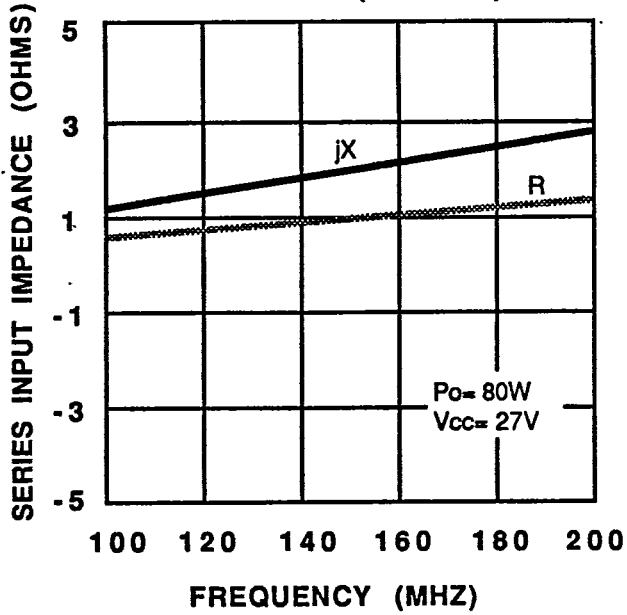


SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

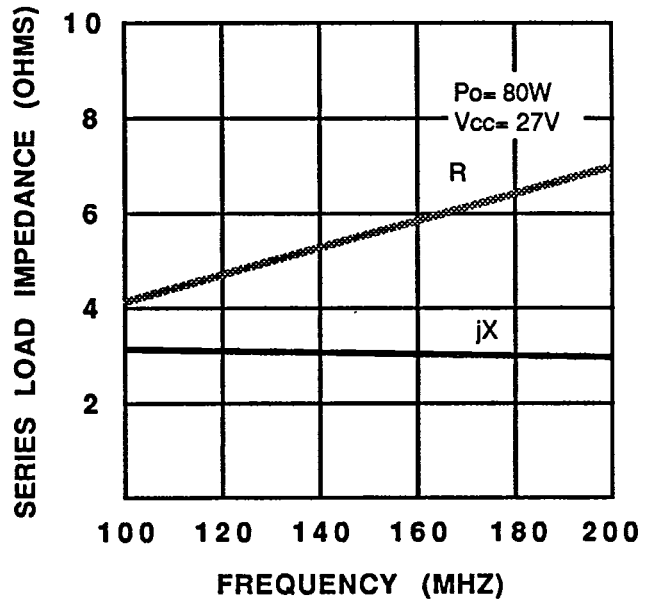
228

**VAM80-3**

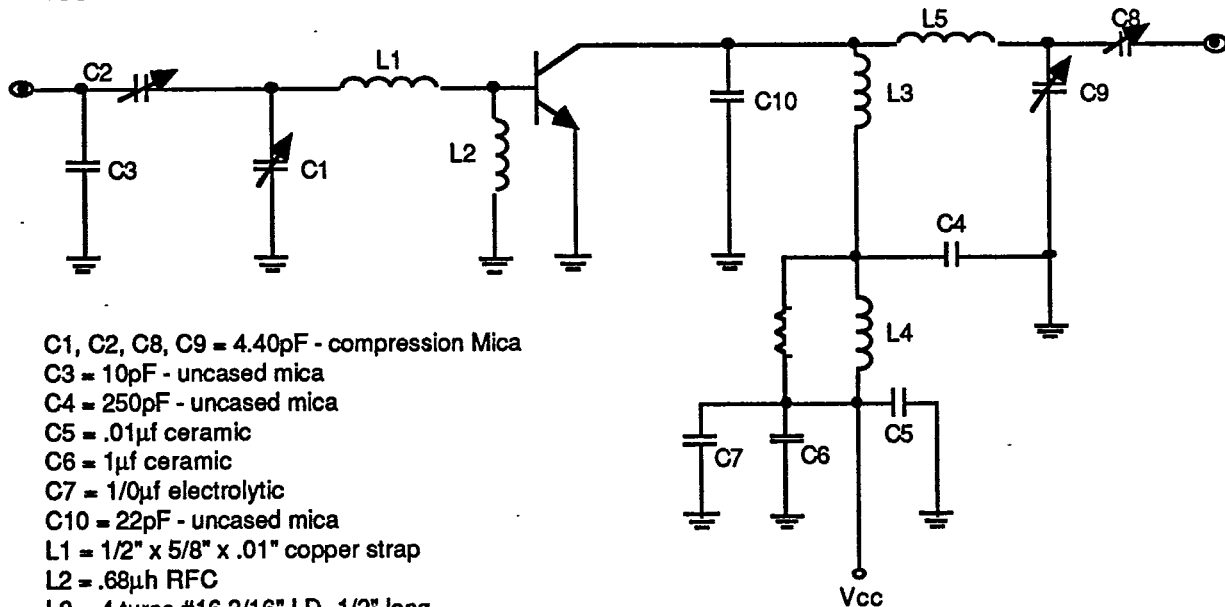
**SERIES INPUT IMPEDANCE VS FREQUENCY (TYPICAL)**



**SERIES LOAD IMPEDANCE VS FREQUENCY (TYPICAL)**



**150 MHz TEST AMPLIFIER**



- C1, C2, C8, C9 = 4.40pF - compression Mica
- C3 = 10pF - uncased mica
- C4 = 250pF - uncased mica
- C5 = .01µf ceramic
- C6 = 1µf ceramic
- C7 = 1/0µf electrolytic
- C10 = 22pF - uncased mica
- L1 = 1/2" x 5/8" x .01" copper strap
- L2 = .68µh RFC
- L3 = 4 turns #16 3/16" I.D.-1/2" long
- L4 = 10µh RFC
- L5 = 1 1/2" x 3/16" x .01" copper strap

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229