

RF Power Modules

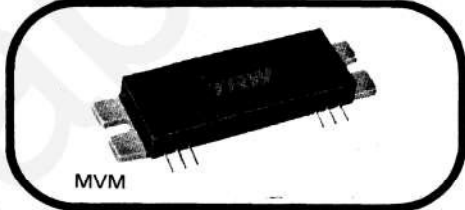


Island Labs

The MV modules are rugged power amplifier functions designed for battery powered mobile and marine applications in the 140-175 MHz band. The modules feature 50 Ω input and output impedances, highly repeatable broadband gain, and will withstand infinite load VSWR at 16 volts with overdrive and uncontrolled output power (typically more than 40 watts).

Compared to discrete components, these modules offer significant savings in size as well as cost of design, production and repair.

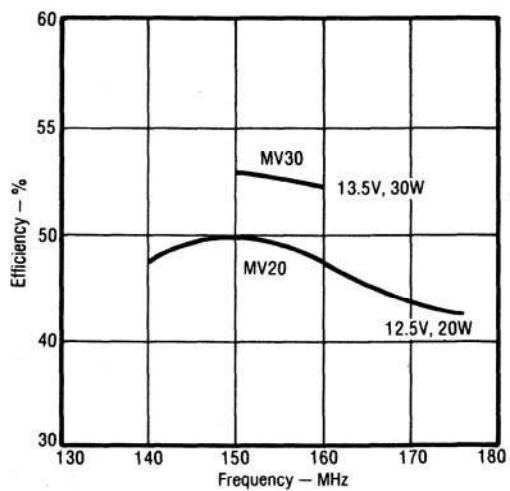
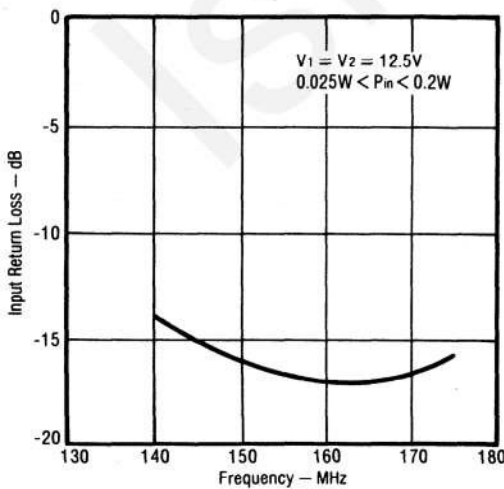
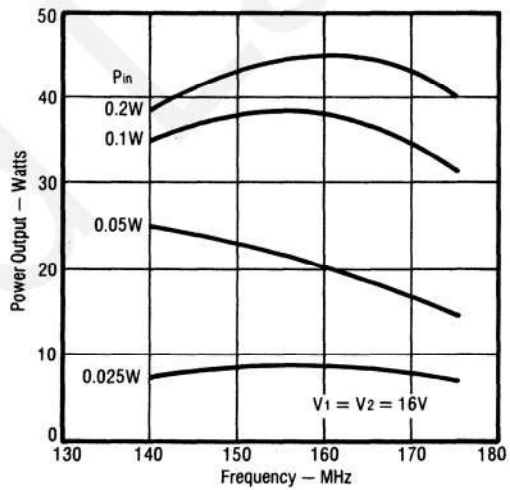
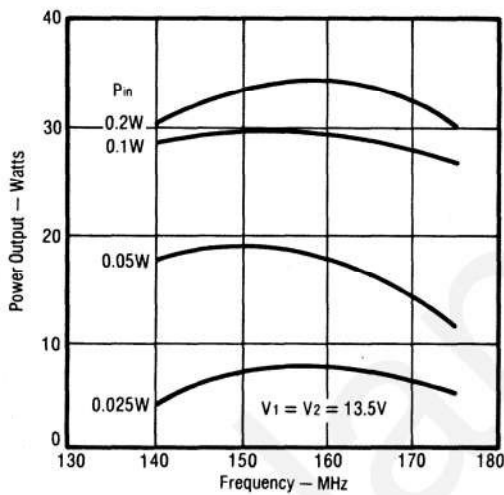
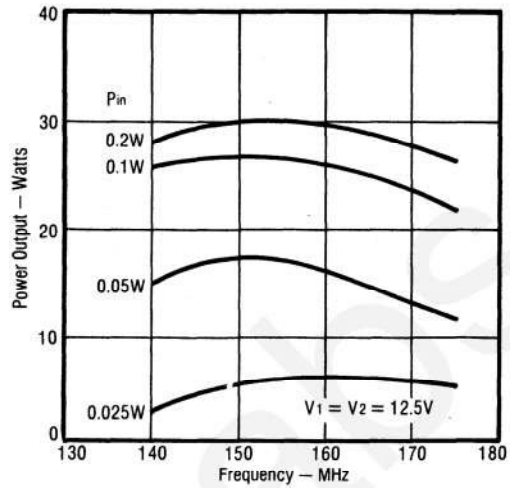
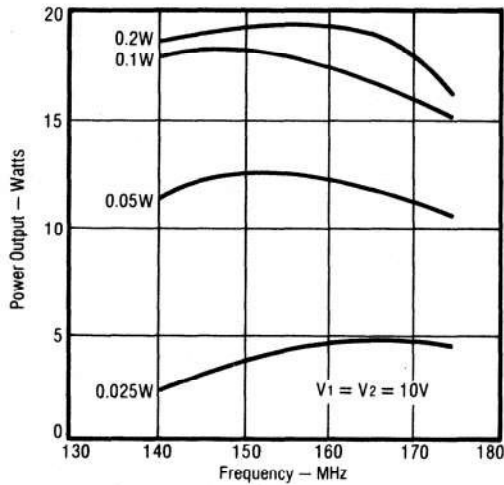
140 - 175 MHz
∞ VSWR @ 16 V



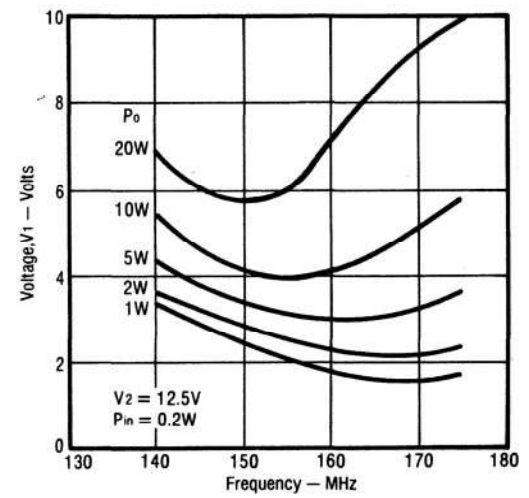
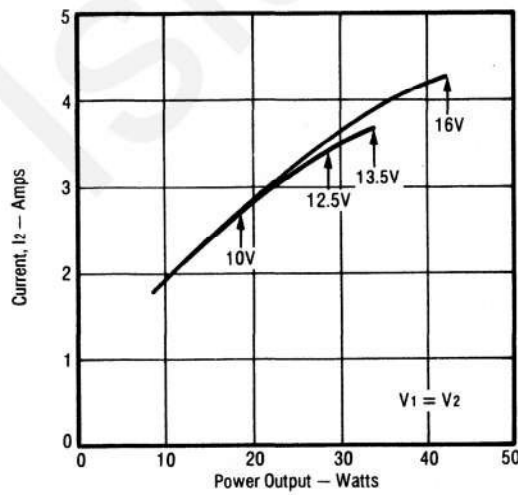
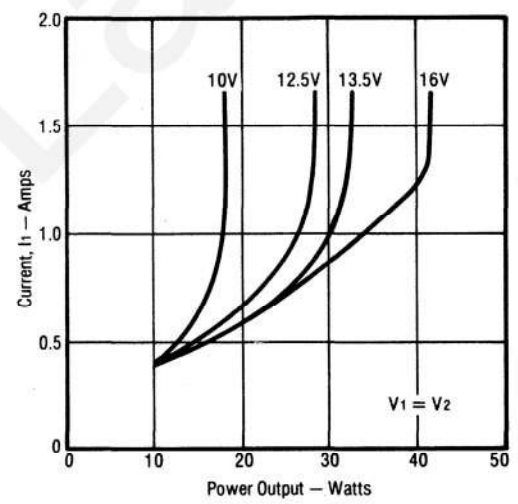
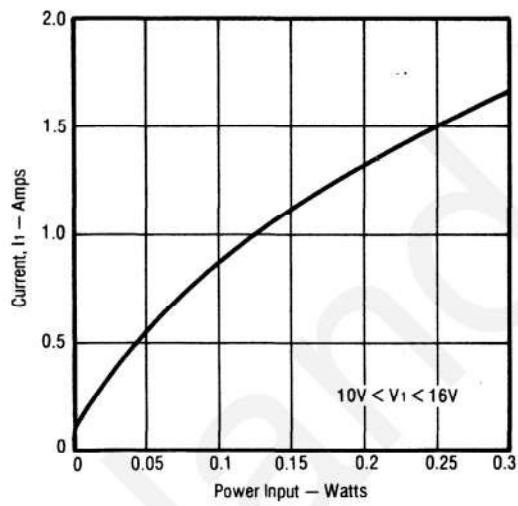
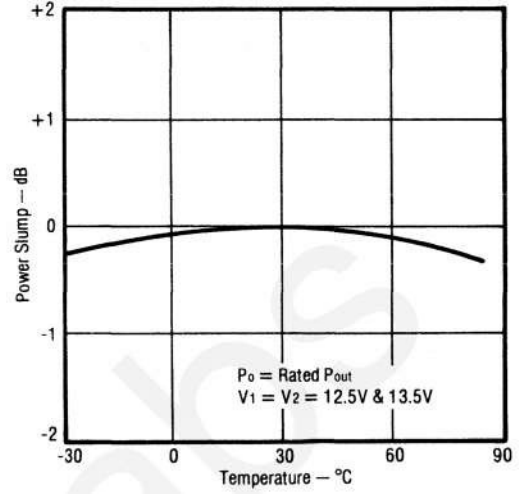
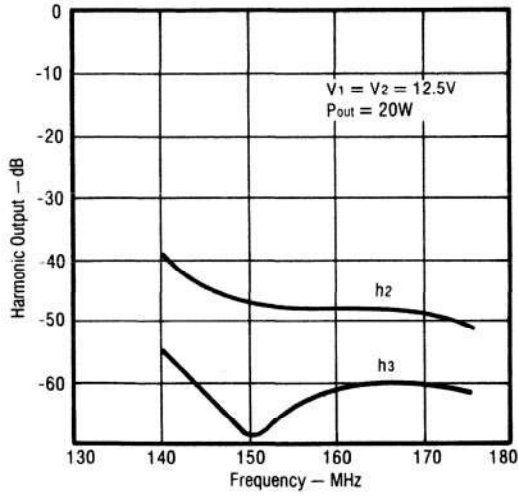
Electrical Characteristics (T_{flange} = 25 °C)

Characteristic	Test Conditions	MV20	MV30	Units/Limit
Frequency Range		140-175	150-160	MHz
Supply Voltage, V _{CC}		12.5	13.5	Vdc, Nom.
Power Output	Rated V _{CC} Any In-Band Frequency P _{in} ≤ 0.2 Watts	20	30	W, Min.
Efficiency	Rated P _o , V _{CC}	40	50	% Min.
Harmonic Outputs	Rated P _o , V _{CC}	- 35	- 40	dB, Max.
Input Return Loss	Z ₀ = 50 Ω	- 10	- 10	dB, Max.
Output Impedance		50	50	Ω, Nom.
Quiescent Current	V _{CC} = 16 V, P _{in} = 0 W	0.1	0.1	Adc, Max.
Power Slump	Rated P _o , V _{CC} 25 °C - 30 °C to + 80 °C	1.0	1.0	dB, Max.
Load VSWR, 0-360° (Degradation)	V _{CC} = 16 V, P _{in} = 0.3 W Lowest Frequency	20 : 1	20 : 1	No Degradation
Load VSWR, 0-360° (Stability)	10 V ≤ V _{CC} ≤ 16 V 0 < P _{in} ≤ 0.3 W Any In-Band Frequency	3 : 1	3 : 1	Min.
		5 : 1	5 : 1	Typ.
Temperature Range	Operating, T _{FLANGE}	- 30 + 100	- 30 + 100	°C Min. °C Max.

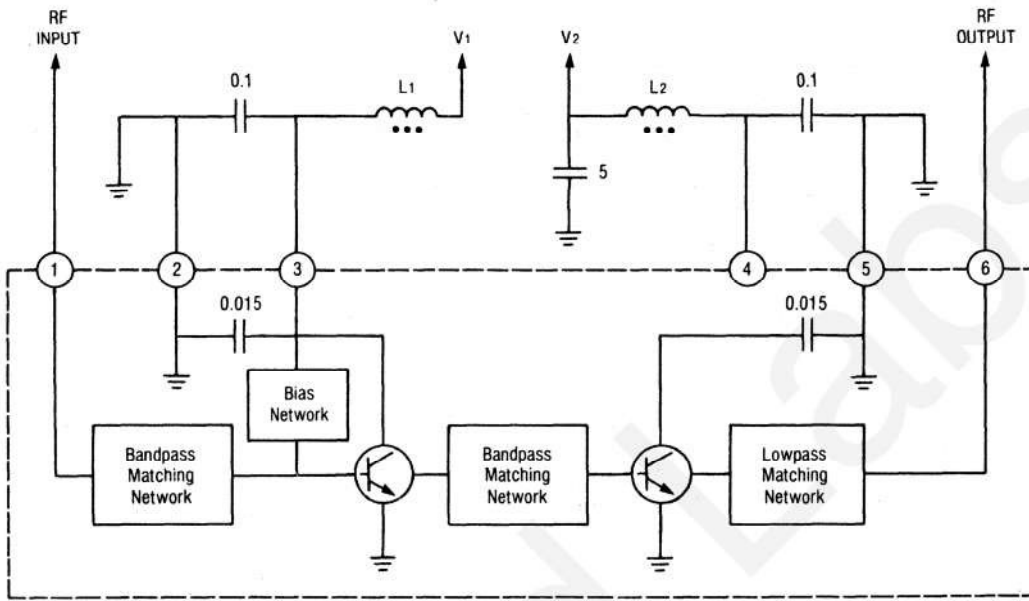
TYPICAL CHARACTERISTICS



MV 20 - MV 30



CIRCUIT DIAGRAM FOR MV 20 AND MV 30



L1, L2: Ferroxcube VK211173B, 2½ turns
All capacitor values in μF

MVM PACKAGE OUTLINE

