SLAM-0111

ULTRA-LINEAR, 25 WATT, 2 TO 32 MHz CLASS A, SELF BIASED POWER FET

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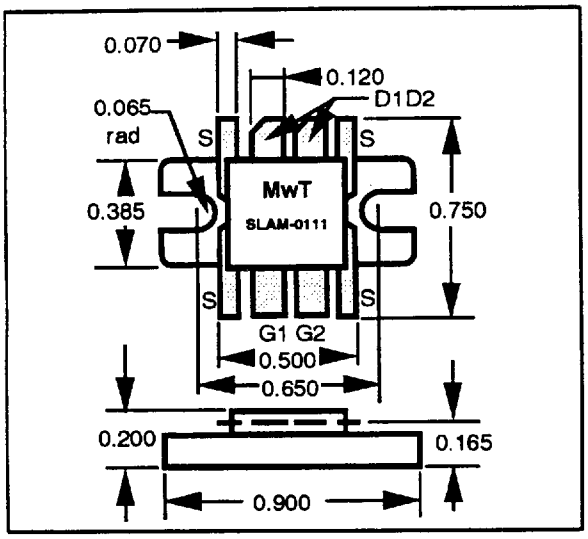


FEATURES

- 25 WATT ULTRA LINEAR OPERATION
- +55 dBm TOIP (THIRD ORDER INTERCEPT)
- PUSH-PULL DEVICE
- BROADBAND (2 TO 32 MHz)
- 15 dB POWER GAIN
- ±0.5 dB GAIN FLATNESS
- INTERNALLY TEMPERATURE COMPENSATED
- 28 VOLT, SINGLE SUPPLY OPERATION

DESCRIPTION

The SLAM-0111 is a self-biased, internally temperature compensated, push-pull, silicon FET hybrid. This device delivers over 25 Watts of linear power when biased from a single 28 Volt supply. The internal temperature compensation and +55 dbm IP3 makes the SLAM-0111 ideal for ultra-linear HF applications such as high power tube drivers, laboratory test equipment, communications equipment, and other ISM applications.

RF PERFORMANCE AT Tc = 25°C (f = 32 MHz, VDS = 28 V, IDS = 2.4 A)

SYMBOL	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP
G_P	Power Gain	dB	13	15
P1dB	Output Power at 1 dB Compression	dBm	44	45
IP3	Two-Tone Third Order Intercept	dBm	54	55

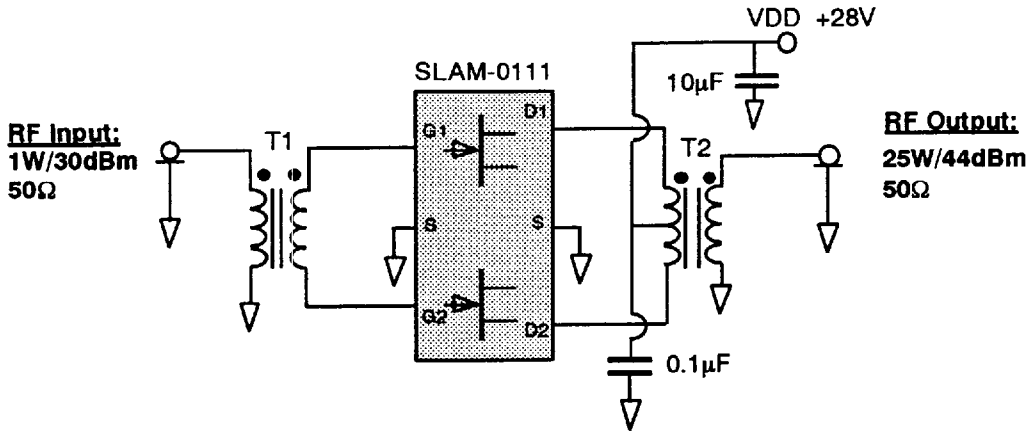
MAXIMUM RATINGS AT Ta=25° C

SYMBOL	PARAMETER	UNITS	CONT MAX
V_{DS}	Drain to Source Voltage	V	30
T_J	Junction Temperature	°C	+200
Tst	Storage Temperature	°C	-65 to +150
Θ_{JC}	Thermal Resistance[1]	°C/W	1.25

1 - Junction to Case

MMT

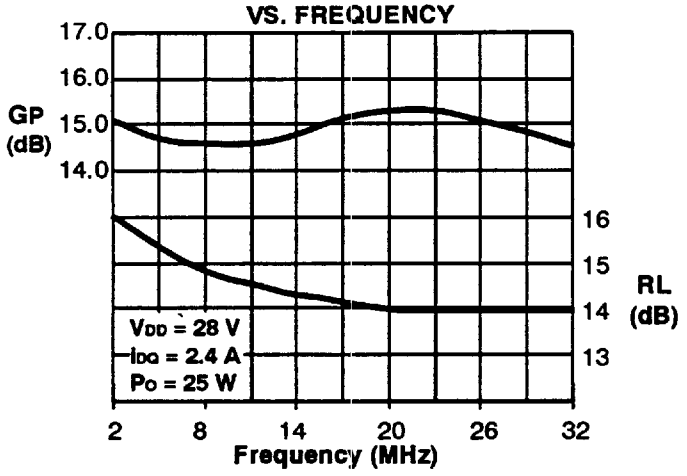
2 MHz - 32 MHz RECOMMENDED AMPLIFIER CIRCUIT



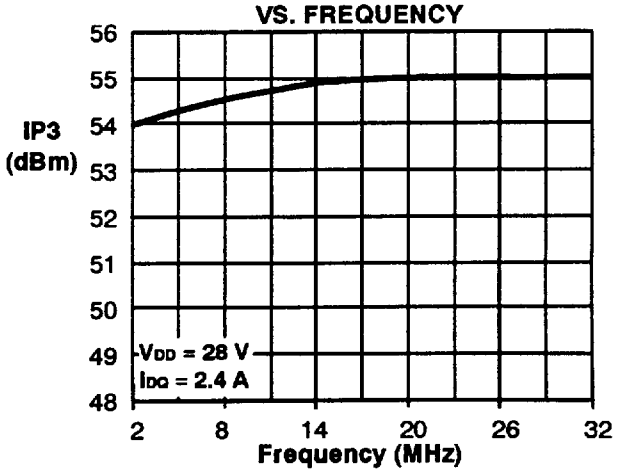
T1 = 1:1 Z, 2.5 turns #30 AWG twisted pair on two hole balun core. (Fair-Rite #28773002402, µ = 2000).

T2 = 1:1 Z, 3 turns #26 AWG center tapped / 3 turns #26 AWG on two sleeves to form a two hole balun. (Fair-Rite #2677006301, µ = 2000).

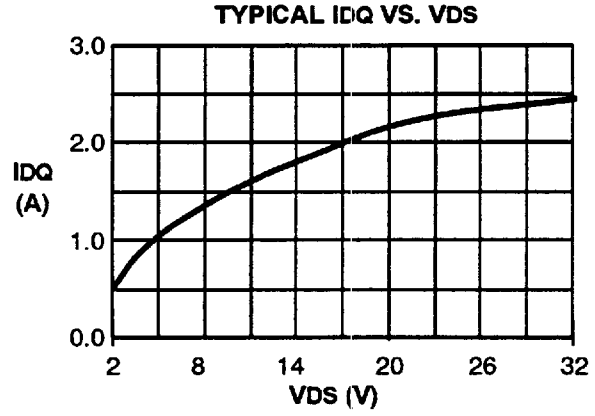
T YPICAL GAIN & RETURN LOSS VS. FREQUENCY



TYPICAL IP3 VS. FREQUENCY



TYPICAL IDQ VS. VDS



TYPICAL P1dB and Gp @ 16 MHz