

**GENERAL DESCRIPTION**

The 2015M is an internally matched, common base transistor capable of providing 15 Watts of CW RF output power across the 1000-2000 MHz band. This transistor is specifically designed for telecommunication and microwave amplifier applications. It utilizes gold metallization and diffused ballasting to provide high reliability and supreme ruggedness.

**2015M**  
**15 WATTS - 28 VOLTS**  
**2 GHz**

**MICROWAVE - BIPOLAR**

**ABSOLUTE MAXIMUM RATINGS**

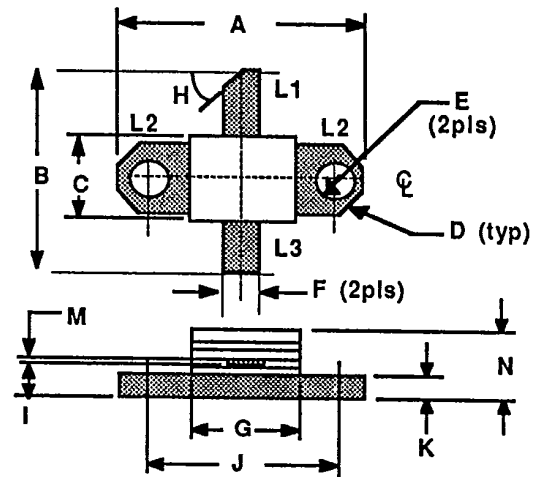
Maximum Power Dissipation @ 25°C Case Temperature 50 W

Maximum Voltage and Current

BVces Collector to Emitter Voltage 50 V  
 BVebo Emitter to Base Voltage 3.5 V  
 Ic Collector Current 3.0 A

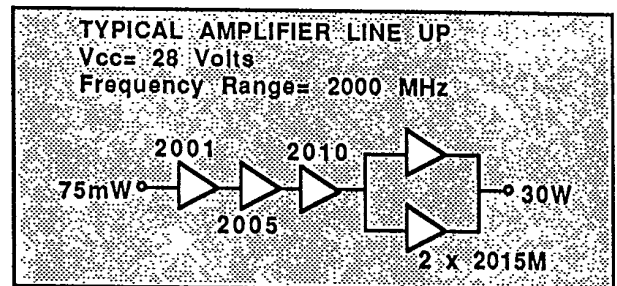
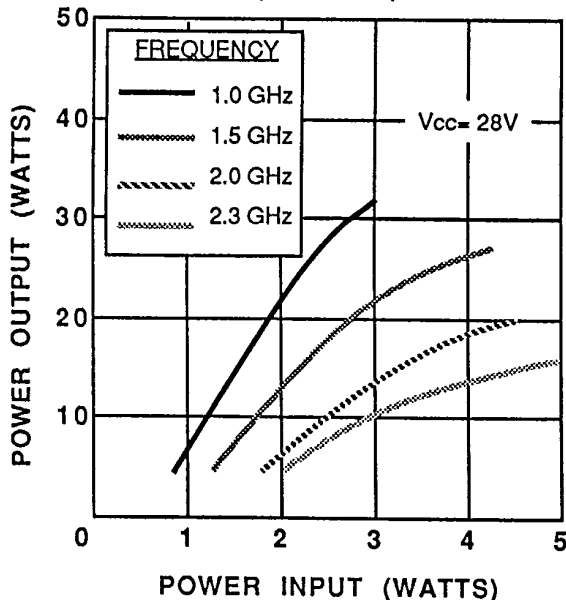
Maximum Temperatures

Storage Temperature -65 to +150 °C  
 Operating Junction Temperature +200 °C



DIM	Millimeter	TOL	Inches	TOL	
L1 : C	A	18.90	.13	.744	.005
L2 : B	B	15.00	.76	.590	.030
L3 : E	C	7.37	.13	.290	.005
	D	1.27x45°	.13	.050x45°	.005
	E	3.30 DIA	.13	.130 DIA	.005
	F	2.54	.13	.100	.005
	G	8.13	.13	.320	.005
	H	45°	5°	45°	5°
	I	2.54	.13	.100	.005
	J	14.22	.13	.560	.005
	K	1.52	.13	.060	.005
	M	0.13	.02	.005	.001
	N	3.81	REF	.150	REF

**POWER OUTPUT VS POWER INPUT (TYPICAL)**



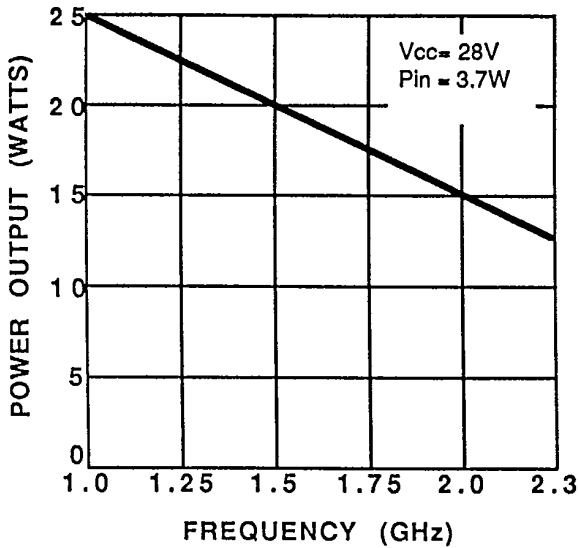
2015M-2

ELECTRICAL CHARACTERISTICS<sup>1</sup>

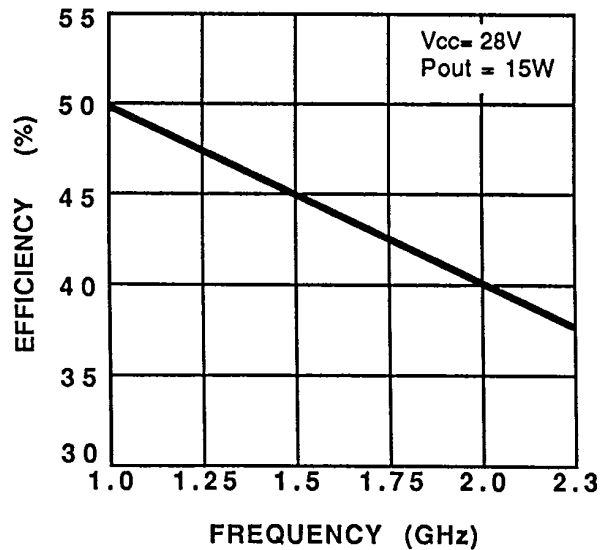
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P <sub>out</sub>	Power Output	f= 2000 MHz V <sub>cc</sub> = 28V	15.0			Watts
P <sub>in</sub>	Power Input				3.75	Watts
P <sub>g</sub>	Power Gain			7.0		dB
η <sub>c</sub>	Collector Efficiency			35		%
VSWR	Load Mismatch Tolerance					∞:1
BV <sub>ebo</sub>	Breakdown Voltage (Emitter to Base)	I <sub>c</sub> = 0A, I <sub>e</sub> = 6mA	3.5			Volts
BV <sub>ces</sub>	Breakdown Voltage (Collector to Emitter)	V <sub>be</sub> = 0A, I <sub>c</sub> = 60mA	50			Volts
BV <sub>cbo</sub>	Breakdown Voltage (Collector - Base)	I <sub>e</sub> = 0A, I <sub>c</sub> = 6mA	45			Volts
I <sub>cbo</sub>	Collector Leakage Current	I <sub>e</sub> = 0A, V <sub>cb</sub> = 28V			3	mA
C <sub>ob</sub>	Capacitance-Collector to Base	V <sub>cb</sub> = 28V, f= 1MHz		22		pF
h <sub>FE</sub>	DC-Current Gain	V <sub>ce</sub> = 5V, I <sub>c</sub> = 600mA	10			
θ <sub>jc</sub>	Thermal Resistance				3.5	°C/W

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

POWER OUTPUT VS FREQUENCY (TYPICAL)



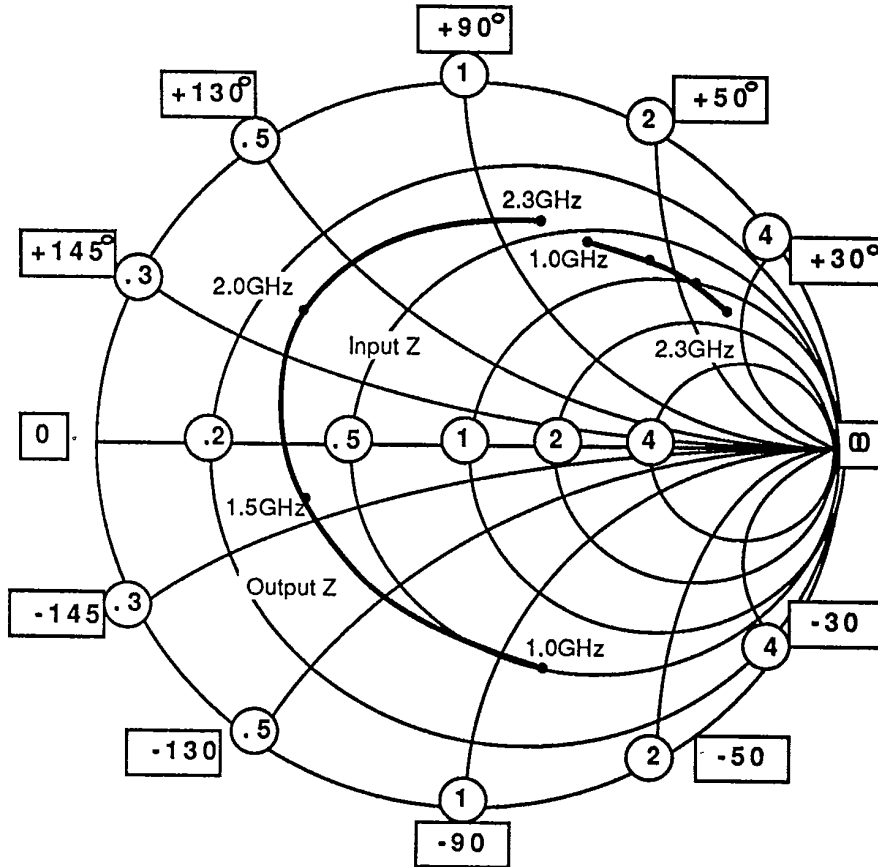
EFFICIENCY VS FREQUENCY (TYPICAL)



SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

**SMITH CHART  
2015M**

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES  
V<sub>CC</sub>= 28V



NORMALIZED TO A 5 OHM SYSTEM.

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