

**GENERAL DESCRIPTION**

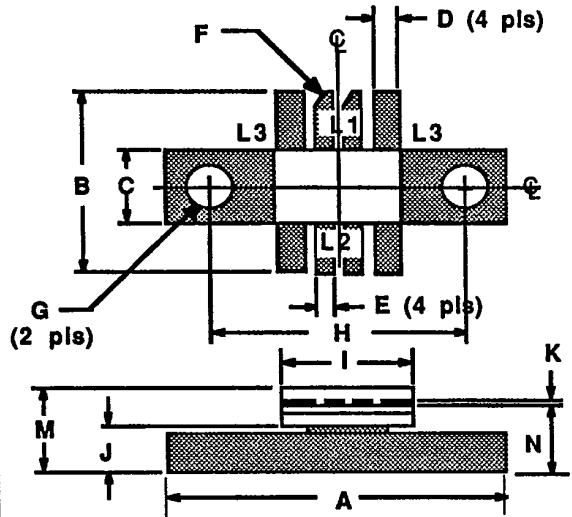
The 0105-12 is a 12 watt balanced transistor designed for broadband use in the 100-500 MHz frequency band. It may be operated in Class A, AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability.

**0105-12**  
**12 WATT - 28 VOLT**  
**100-500 MHz**

**UHF COMMUNICATIONS**

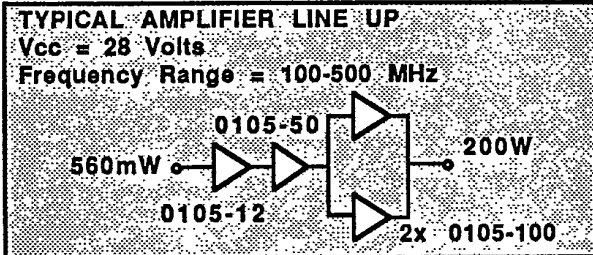
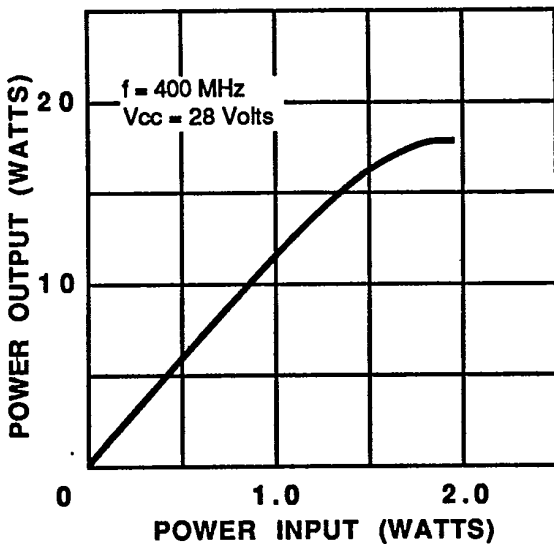
**ABSOLUTE MAXIMUM RATINGS**

Maximum Power Dissipation @ 25 C Case Temperature	22 W
<b>Maximum Voltage and Current</b>	
BVces Collector to Emitter Voltage	55 V
BVebo Emitter to Base Voltage	4.0 V
ic Collector Current	1.4 A
<b>Maximum Temperatures</b>	
Storage Temperature	-65 to +150°C
Operating Junction Temperature	+200°C



DIM	Millimeter	TOL	Inches	TOL
L1 : C				
L2 : B	24.76	.13	.975	.005
L3 : E	19.05	.25	.750	.010
	5.84	.05	.230	.002
	1.65	.13	.065	.005
	1.27	.13	.050	.005
	45°	5°	45°	5°
	3.17 DIA	.13	.125 DIA	.005
	18.41	.13	.725	.005
	8.89	.13	.350	.005
	2.59	.13	.102	.005
	0.13	.02	.005	.001
	6.50	REF	.256	REF
	4.22	.25	.166	.010

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



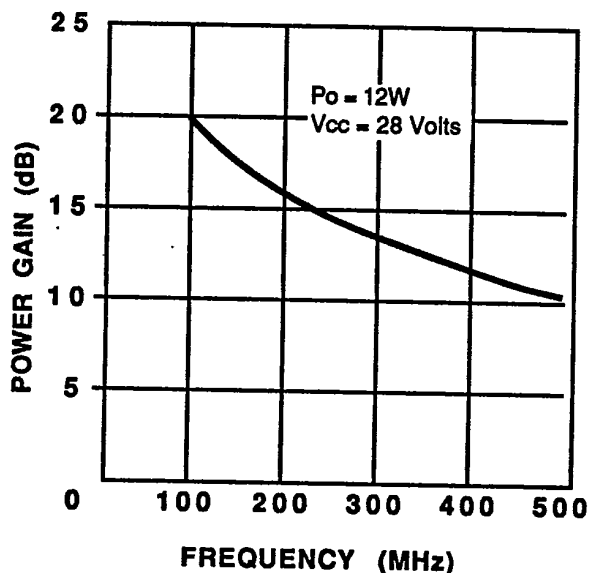
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**ELECTRICAL CHARACTERISTICS**

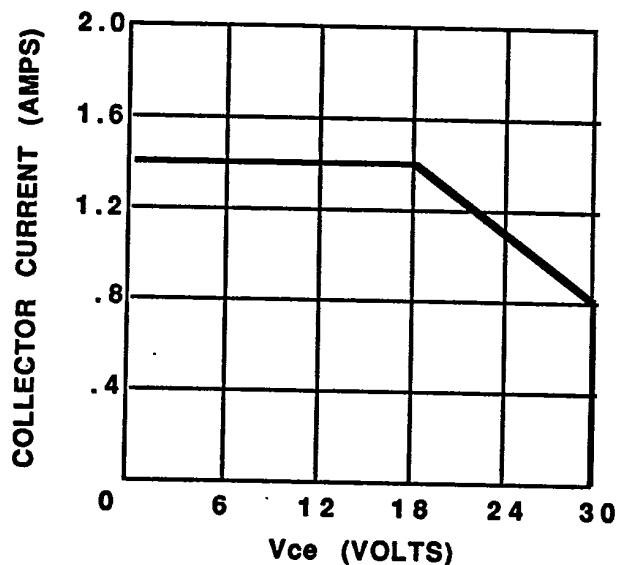
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Pout	Power Output	f= 500 MHz Vcc= 28 V, Class C At Rated Power Out	12			Watts
Pin	Power Input				2.0	Watts
Pg	Power Gain		7.8	10		dB
$\eta_c$	Collector Efficiency			60		%
VSWR	Load Mismatch Tolerance				20:1	
BVebo	Breakdown Voltage (Emitter to Base)	Ie= 5 mA	4.0			Volts
BVces	Breakdown Voltage (Collector to Emitter)	Ic= 20 mA	55			Volts
BVceo	Breakdown Voltage (Collector to Emitter)	Ic= 50 mA	30			Volts
Cob	Capacitance-Collector to Base			9.0		pF
hFE	DC-Current Gain	Vce= 5 V, Ic= 100 mA	10			
$\theta_{jc}$	Thermal Resistance	Tc= 25°C			8.0	°C/W

Note: DC and Cob measurements the base leads and collector leads are paralleled.

**TYPICAL POWER GAIN VS FREQUENCY**



**TYPICAL DC SAFE OPERATING AREA**

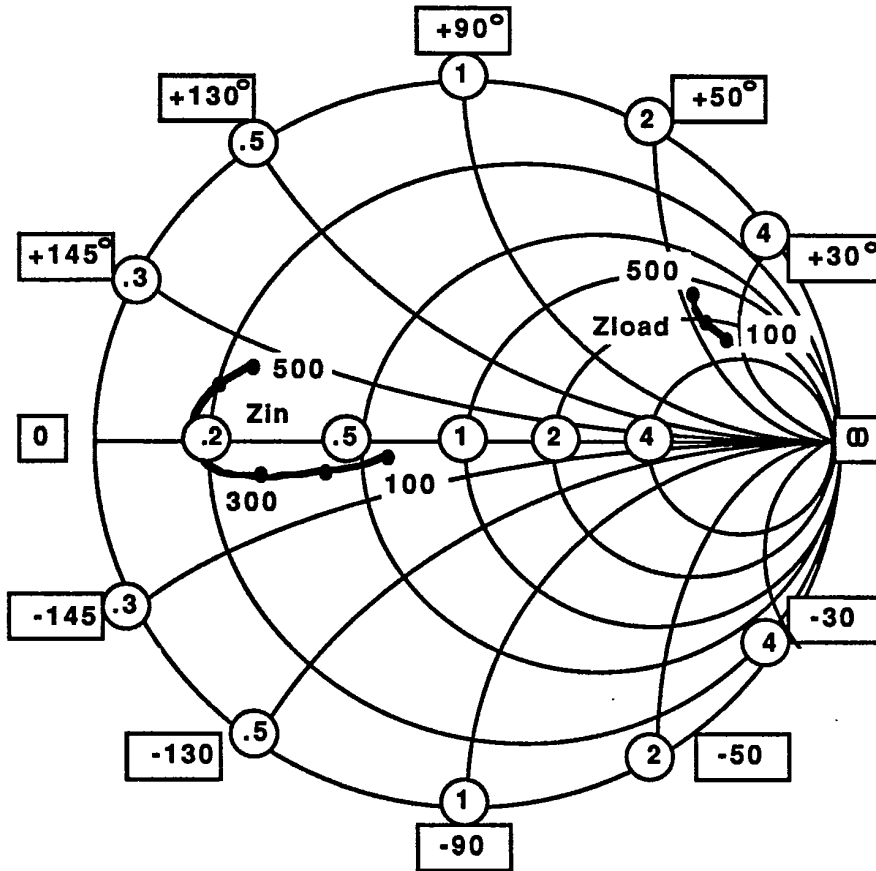


SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

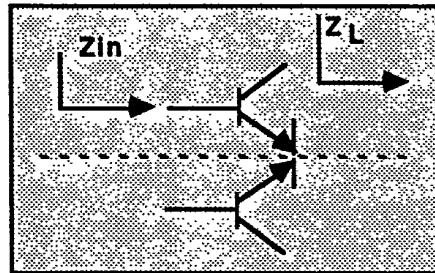
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**SMITH CHART**  
**0105-12**

**NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES**



**NORMALIZED TO A 10 OHM SYSTEM.**



FREQUENCY			FREQUENCY		
MHz	R	JX	MHz	R	JX
100	6.8	-0.4	100	28	+33
200	4.8	-0.8	200	25	+26
300	3.3	-0.6	300	22	+22
400	2.0	+0.8	400	18	+21
500	2.5	+2.0	500	14	+21