

10AM05

5.0 Watts, 20 Volts, Class A
Linear to 1000 MHz

GENERAL DESCRIPTION

The 10AM05 is a COMMON EMITTER transistor capable of providing 5 Watts of Class A, RF output power to 1000 MHz. This transistor is specifically designed for general Class A amplifier applications. It utilizes gold metalization and diffused ballasting to provide high reliability and supreme ruggedness.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 25 Watts

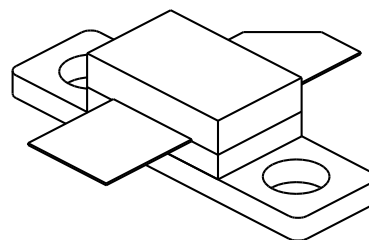
Maximum Voltage and Current

BVces	Collector to Emitter Voltage	50 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	3.0 Amps

Maximum Temperatures

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

CASE OUTLINE 55CX, STYLE 2



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1.0 GHz	5.0			Watts
Pin	Power Input	Ic = 1.0 A			.63	Watts
Pg	Power Gain	Vcc = 20 Volts	9.0	10		dB
Ft	Transition Frequency	Vce = 20 V, Ic = 1 A	2.0	2.5		GHz
VSWR	Load Mismatch Tolerance				30:1	

BVebo	Emitter to Base Breakdown	Ie = 6.0 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 60 mA	50			Volts
BVceo	Collector to Emitter Breakdown	Ic = 60 mA	24			Volts
h_{FE}	DC Current Gain	Vce = 5 V, Ic = 400 mA	20			
Cob	Output Capacitance	Vcb = 20V, f = 1.0 MHz		16.0		pF
θjc	Thermal Resistance			5	7.0	°C/W

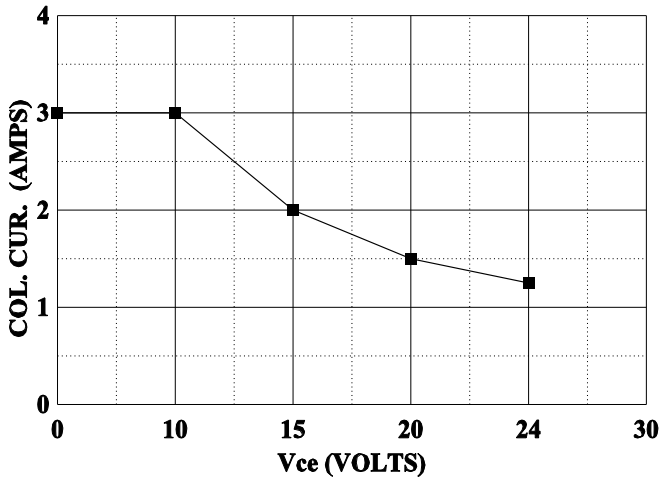
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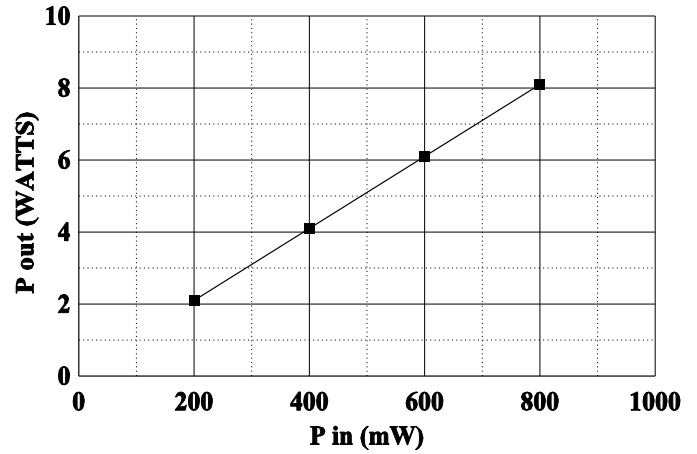
Typical Performance

DC SAFE OPERATING AREA



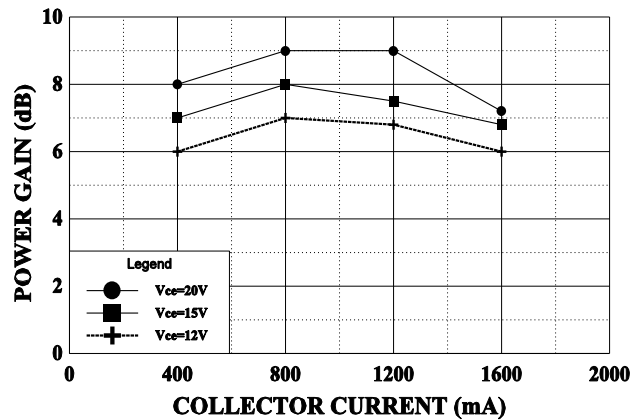
POWER OUTPUT vs POWER INPUT

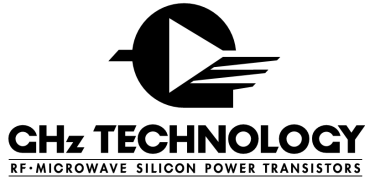
f=1.0 GHz, V_{cc}=20V



GAIN vs COLLECTOR CURRENT

f=1.0 GHz





10AM05-1 (20V, 1A)

MMICAD for Windows Thu Jul 07 16:06:47 1994
 CIRCUIT: MES

FREQ MHz	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.96742	-178.578	5.52129	86.6101	0.01413	7.82657	0.57907	-169.199
0.200	0.96720	179.185	2.80616	76.6119	0.01454	7.97739	0.58427	-172.736
0.300	0.96747	177.458	1.91520	67.9533	0.01491	8.15256	0.59197	-172.623
0.400	0.96427	176.092	1.48540	59.5022	0.01558	10.2282	0.60408	-172.203
0.500	0.95961	174.798	1.24046	50.9233	0.01659	10.7943	0.61700	-171.571
0.600	0.95260	173.446	1.09105	42.0681	0.01748	11.3540	0.63482	-170.968
0.700	0.94398	172.113	1.00240	32.5895	0.01885	8.26448	0.65454	-170.362
0.800	0.93233	171.035	0.95565	22.1966	0.02057	5.12179	0.67717	-169.881
0.900	0.91359	169.768	0.94253	10.2823	0.02200	-1.26575	0.70560	-169.280
1.000	0.88536	168.736	0.95416	-4.40507	0.02434	-10.7911	0.74682	-168.798
1.100	0.84731	168.856	0.97060	-23.2356	0.02503	-27.0540	0.80521	-169.416
1.200	0.81562	171.232	0.93860	-47.1572	0.02379	-49.4025	0.87453	-172.429
1.300	0.82895	174.640	0.80712	-73.5776	0.01862	-77.4494	0.91426	-177.592
1.400	0.87501	175.941	0.61574	-97.3336	0.01219	-111.084	0.91435	177.434
1.500	0.91716	174.915	0.44511	-115.958	0.00716	-156.066	0.89399	174.110
1.600	0.94486	173.174	0.32126	-130.458	0.00664	153.602	0.87610	171.769
1.700	0.96124	171.202	0.23482	-142.151	0.00818	117.011	0.86263	170.082
1.800	0.97036	169.159	0.17565	-152.232	0.01034	102.362	0.85629	168.606
1.900	0.97562	167.326	0.13354	-160.852	0.01142	88.1325	0.85016	167.140
2.000	0.97986	165.559	0.10481	-169.653	0.01323	87.1431	0.84779	165.793