

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

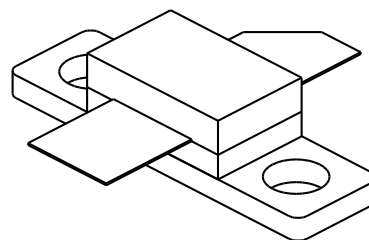
Maximum Voltage and Current

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

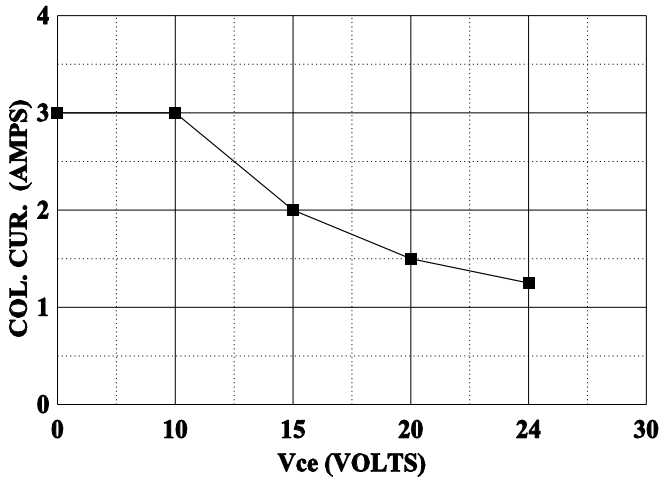
Issue February 1996

GHz TECHNOLOGY INC. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE. GHz RECOMMENDS THAT BEFORE THE PRODUCT(S) DESCRIBED HEREIN ARE WRITTEN INTO SPECIFICATIONS, OR USED IN CRITICAL APPLICATIONS, THAT THE PERFORMANCE CHARACTERISTICS BE VERIFIED BY CONTACTING THE FACTORY.



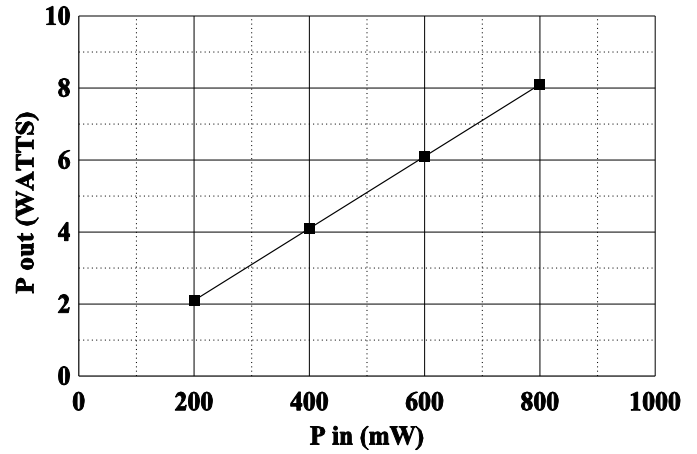
Typical Performance

DC SAFE OPERATING AREA



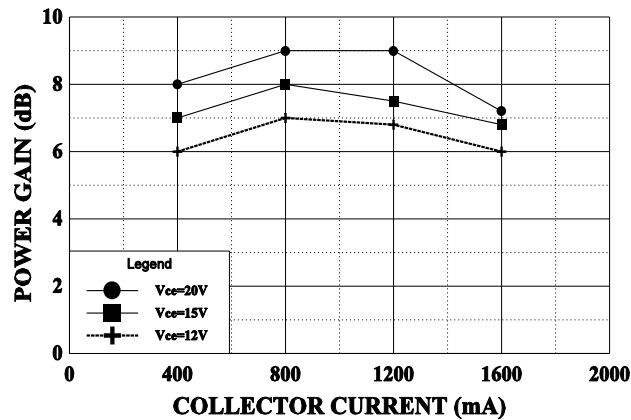
POWER OUTPUT vs POWER INPUT

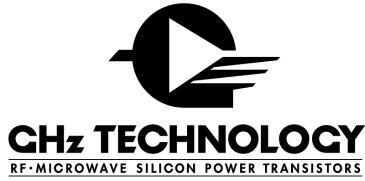
f=1.0 GHz, Vcc=20V



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