

# 23A008

0.5 Watts, 20 Volts, Class A  
Linear to 2300 MHz

## GENERAL DESCRIPTION

The 23A008 is a COMMON EMITTER transistor capable of providing up to 0.5 Watts of Class A, RF output power to 2300 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. The transistor uses a fully hermetic High Temperature Solder Sealed package.

## ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 5.0 Watts

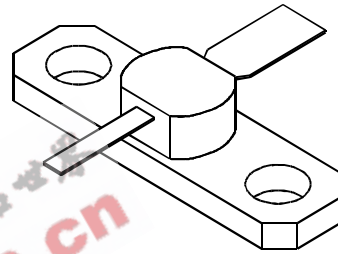
### Maximum Voltage and Current

BVces Collector to Emitter Voltage 50 Volts  
BVebo Emitter to Base Voltage 3.5 Volts  
Ic Collector Current 400 mA

### Maximum Temperatures

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

## CASE OUTLINE 55BT, STYLE 2



## ELECTRICAL CHARACTERISTICS @ 25 °C

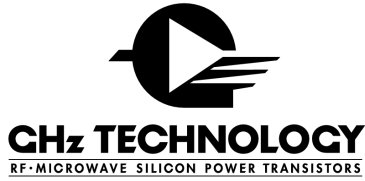
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2.3 GHz	.8	1.0		Watts
Pin	Power Input	Ic = 140 mA			.142	Watts
Pg	Power Gain	Vcc = 20 Volts	8.5	9.5		dB
Ft	Transition Frequency	Vce = 20V, Ic = 140 mA	3.4	3.7		GHz
VSWR	Load Mismatch Tolerance				10:1	

BVebo	Emitter to Base Breakdown	Ie = 1 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 10 mA	50			Volts
BVceo	Collector to Emitter Breakdown	Ic = 10 mA	22			Volts
h <sub>FE</sub>	DC Current Gain	Vce = 5 V, Ic = 100 mA	20			
Cob	Capacitance	Vcb = 28V, f = 1 MHz		3.0		pF
θjc	Thermal Resistance			30	35	°C/W

Issue August 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.

GHz Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120



## 23A008-2 (20V, 140mA)

MMICAD for Windows Thu Jul 07 13:16:15 1994  
 CIRCUIT: MES

FREQ Mhz	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.69539	-135.993	20.7630	120.691	0.01704	38.1189	0.63713	-35.6666
0.200	0.81029	-158.418	12.0537	100.214	0.02008	26.5312	0.48672	-42.8076
0.300	0.83320	-168.332	8.32269	86.6020	0.02105	23.1858	0.44593	-47.6537
0.400	0.84387	-174.477	6.32297	77.9281	0.02189	23.3480	0.43687	-53.0360
0.500	0.84558	-178.904	5.07091	71.3420	0.02275	24.3138	0.44104	-59.1855
0.600	0.84637	177.558	4.22160	64.6641	0.02362	25.9379	0.45137	-65.5724
0.700	0.84714	174.450	3.60817	57.5221	0.02463	27.1959	0.46449	-72.1805
0.800	0.84842	171.654	3.14682	51.4117	0.02585	28.9630	0.47996	-78.6848
0.900	0.84833	168.879	2.78501	45.5643	0.02712	30.0809	0.49705	-84.9051
1.000	0.84906	166.087	2.49702	39.9653	0.02872	31.5384	0.51656	-90.9855
1.100	0.84688	163.387	2.25651	34.4952	0.03043	32.4885	0.53701	-96.8387
1.200	0.84430	160.773	2.05428	29.1952	0.03237	33.2267	0.55822	-102.462
1.300	0.84359	158.107	1.88402	24.0424	0.03428	33.6673	0.57910	-107.640
1.400	0.84229	155.511	1.73895	19.0673	0.03635	34.0208	0.60029	-112.515
1.500	0.84134	152.822	1.61738	14.1681	0.03874	34.5871	0.62127	-117.008
1.600	0.83744	150.304	1.51635	9.30420	0.04154	34.4418	0.64467	-121.546
1.700	0.84246	147.593	1.42538	3.92183	0.04467	33.3968	0.66337	-126.289
1.800	0.84418	144.083	1.32958	-1.34968	0.04710	32.2105	0.67337	-130.814
1.900	0.83471	140.902	1.24211	-5.96587	0.04982	31.1090	0.68150	-134.753
2.000	0.82964	138.044	1.17179	-10.4279	0.05269	30.5303	0.69099	-138.594
2.100	0.82650	134.983	1.10924	-15.0294	0.05592	29.2239	0.70255	-142.330
2.200	0.82008	131.736	1.05154	-19.7045	0.05931	27.6579	0.71504	-146.287
2.300	0.81563	128.640	0.99756	-24.1558	0.06266	26.0924	0.72678	-150.299
2.400	0.81145	125.233	0.94977	-28.5316	0.06592	24.4147	0.73626	-153.997
2.500	0.80597	121.753	0.90851	-32.9008	0.06990	23.0126	0.74807	-157.609
2.600	0.80058	118.380	0.86927	-37.3859	0.07373	21.1529	0.75902	-161.220
2.700	0.79640	114.792	0.83139	-41.8162	0.07804	19.0585	0.76486	-164.744
2.800	0.79336	110.965	0.79568	-46.0923	0.08245	17.0486	0.76909	-167.837
2.900	0.79121	106.889	0.76235	-50.3997	0.08707	14.6658	0.77118	-170.714
3.000	0.78683	102.596	0.73216	-54.6134	0.09188	12.2213	0.77204	-173.463