

23A008

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

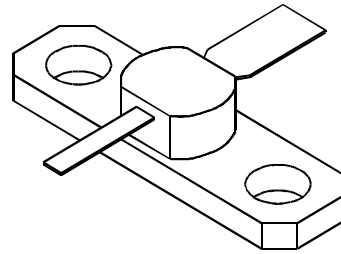
GENERAL DESCRIPTION

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

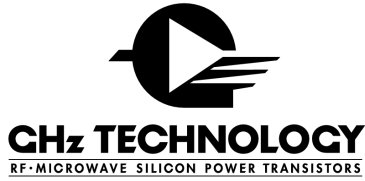
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2.3 GHz	.8	1.0		Watts
Pin	Power Input	Ic = 140 mA			.142	Watts
Pg	Power Gain	Vcc = 20 Volts	8.5	9.5		dB
Ft	Transition Frequency	Vce = 20V, Ic = 140 mA	3.4	3.7		GHz
VSWR	Load Mismatch Tolerance				10:1	

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_{FE}	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

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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