

2A8

0.5 Watts, 20 Volts, Class A
Linear to 2000 MHz

GENERAL DESCRIPTION

The 2A8 is a COMMON EMITTER transistor capable of providing 0.5 Watts of Class A, RF output power at 2000 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 5.3 Watts

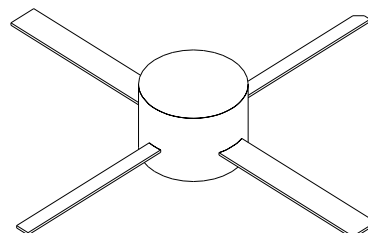
Maximum Voltage and Current

BVces Collector to Emitter Voltage 50 Volts
BVebo Emitter to Base Voltage 3.5 Volts
Ic Collector Current 300 mA

Maximum Temperatures

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

CASE OUTLINE 55EU, STYLE 2



ELECTRICAL CHARACTERISTICS @ 25 °C

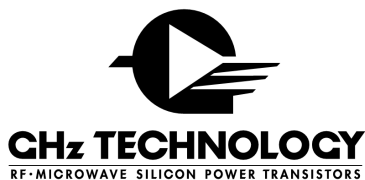
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{out}	Power Out @ 1db Comp. Pt.	F = 2.0 GHz	0.5			Watts
P _{in}	Power Input	V _{cc} = 20 Volts			0.1	Watts
P _g	Power Gain	I _c = 150mA	7.0	9.0		dB
η _c	Efficiency			20		%
VSWR ₁	Load Mismatch Tolerance				30:1	

BVebo	Emitter to Base Breakdown	I _e = 1 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	I _c = 10mA	50			Volts
BVceo	Collector to Emitter Breakdown	I _c = 10 mA	21			Volts
H _{fe}	DC Current Gain	V _{ce} = 5 V, I _c = 100 mA	20			
C _{ob}	Capacitance	V _{cb} = 28V, f = 1 MHz		3.0	4.0	pF
θ _{jc}	Thermal Resistance			28	33	°C/W

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2A8-2 (19.9V, 150mA)

MMICAD for Windows Mon Aug 29 10:57:36 1994
CIRCUIT: MES

FREQ	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.58256	-131.579	22.1701	127.551	0.02296	38.1021	0.50355	-47.6776
0.200	0.69721	-157.306	13.3857	106.506	0.02914	35.1767	0.32372	-63.4932
0.300	0.72082	-169.421	9.38721	92.6214	0.03281	36.5742	0.24514	-70.3590
0.400	0.73289	-177.356	7.17730	84.4817	0.03663	40.7223	0.20597	-74.6703
0.500	0.73894	176.612	5.79952	78.9241	0.04030	43.8715	0.18545	-78.3614
0.600	0.74370	171.646	4.85629	73.0961	0.04460	45.9126	0.17459	-82.5275
0.700	0.74697	167.225	4.17743	66.4085	0.04940	47.7288	0.16913	-86.8291
0.800	0.75135	163.117	3.66591	61.2127	0.05474	49.0294	0.16707	-91.3152
0.900	0.75479	159.190	3.26970	56.2663	0.06006	50.3980	0.16801	-96.0809
1.000	0.75843	155.402	2.95578	51.6377	0.06583	50.7384	0.17052	-101.253
1.100	0.76057	151.751	2.69520	47.0738	0.07158	50.7936	0.17379	-106.206
1.200	0.76355	148.254	2.47842	42.5305	0.07795	50.9948	0.17962	-111.558
1.300	0.76826	144.891	2.29189	38.0578	0.08434	50.5094	0.18566	-117.113
1.400	0.77324	141.577	2.13343	33.6478	0.09089	49.8435	0.19282	-122.617
1.500	0.77915	138.183	1.99656	29.3024	0.09776	49.0596	0.19993	-127.898
1.600	0.78388	134.844	1.87375	25.0314	0.10492	48.1693	0.20907	-133.495
1.700	0.78745	131.474	1.76372	20.7708	0.11200	46.9091	0.21944	-139.103
1.800	0.79263	128.274	1.66452	16.5902	0.11937	45.6592	0.23029	-144.741
1.900	0.79854	125.121	1.57596	12.4613	0.12709	44.0501	0.24254	-150.401
2.000	0.80496	122.050	1.49424	8.34609	0.13469	42.5542	0.25538	-155.855
2.100	0.81108	118.898	1.41899	4.28438	0.14258	40.7972	0.26942	-161.473
2.200	0.81729	115.764	1.34821	0.25212	0.15051	39.0408	0.28455	-166.877
2.300	0.82291	112.708	1.28280	-3.66895	0.15865	37.2246	0.30054	-172.182
2.400	0.82893	109.712	1.22122	-7.45997	0.16667	35.3252	0.31709	-177.402
2.500	0.83552	106.842	1.16562	-11.1687	0.17539	33.2144	0.33489	177.560
2.600	0.84270	103.929	1.11343	-14.8560	0.18374	31.1471	0.35306	172.591
2.700	0.84869	101.084	1.06343	-18.4831	0.19201	28.9065	0.37223	167.749
2.800	0.85483	98.2150	1.01538	-22.0574	0.20065	26.5810	0.39154	162.993
2.900	0.86037	95.4016	0.96956	-25.4966	0.20878	24.1941	0.41071	158.460
3.000	0.86496	92.6534	0.92574	-28.7893	0.21708	21.8647	0.43073	154.114