

23A017

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

GENERAL DESCRIPTION

The 23A017 is a COMMON EMITTER transistor capable of providing 1.7 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 6.0 Watts

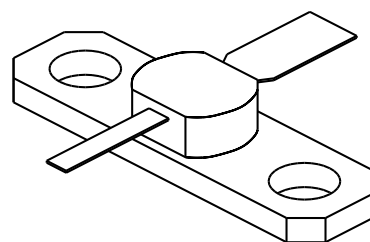
Maximum Voltage and Current

BVces	Collector to Emitter Voltage	50 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	800 mA

Maximum Temperatures

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

CASE OUTLINE 55BT, STYLE 2



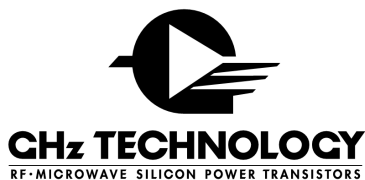
ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	F = 2.3 GHz	1.7	2.2		Watts
P_{in}	Power Input	I _c = 280 mA			.38	Watts
P_g	Power Gain	V _{cc} = 20 Volts	6.25	7.6		dB
F_t	Transition Frequency	V _{ce} = 20V, I _c = 280 mA	3.4	3.7		GHz
VSWR	Load Mismatch Tolerance				9:1	

BVebo	Emitter to Base Breakdown	I _e = 2 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	I _c = 20 mA	50			Volts
BVceo	Collector to Emitter Breakdown	I _c = 20 mA	22			Volts
h_{FE}	DC Current Gain	V _{ce} = 5 V, I _c = 200 mA	20			
Cob	Capacitance	V _{cb} = 28V, f = 1 MHz		4.8		pF
θ_{jc}	Thermal Resistance			14	16	°C/W

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23A017-2 (20V, 280mA)

MMICAD for Windows Fri Aug 26 16:40:51 1994
CIRCUIT: MES

FREQ	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
Mhz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.88100	-163.605	19.2828	108.728	0.01696	20.3017	0.40786	-108.493
0.200	0.91933	-173.623	10.1715	93.8230	0.01815	15.0322	0.33797	-134.089
0.300	0.92878	-178.162	6.88113	83.9582	0.01835	14.2324	0.33201	-143.137
0.400	0.92829	178.890	5.17666	77.4229	0.01889	15.7121	0.33829	-147.054
0.500	0.92797	176.552	4.13396	72.1900	0.01961	17.2633	0.35146	-149.085
0.600	0.92815	174.478	3.43409	66.9399	0.02020	20.6484	0.36691	-150.380
0.700	0.92879	172.692	2.93024	61.3260	0.02077	21.3137	0.38529	-151.448
0.800	0.92918	171.110	2.55303	56.5103	0.02163	23.1242	0.40451	-152.378
0.900	0.93018	169.391	2.26111	51.8779	0.02229	25.1797	0.42486	-153.325
1.000	0.93013	167.742	2.02737	47.4561	0.02354	27.0967	0.44582	-154.415
1.100	0.92855	166.099	1.83394	43.0705	0.02442	27.9353	0.46679	-155.694
1.200	0.92862	164.492	1.67430	38.7969	0.02555	28.5464	0.48814	-157.053
1.300	0.92812	162.903	1.53984	34.6105	0.02670	30.4013	0.50816	-158.620
1.400	0.93001	161.284	1.42500	30.4737	0.02791	30.2711	0.52765	-160.323
1.500	0.92981	159.592	1.32593	26.3548	0.02932	31.4205	0.54646	-162.039
1.600	0.92904	157.807	1.23713	22.2103	0.03120	31.5900	0.56433	-163.921
1.700	0.92699	155.955	1.15833	18.1552	0.03234	32.3130	0.58133	-165.915
1.800	0.92673	154.139	1.08790	14.1996	0.03410	31.9861	0.59696	-167.963
1.900	0.92543	152.289	1.02388	10.3988	0.03626	32.1420	0.61140	-169.997
2.000	0.92657	150.463	0.96863	6.69497	0.03827	32.1540	0.62506	-171.952
2.100	0.92738	148.455	0.91938	2.91897	0.04095	30.5798	0.63969	-173.949
2.200	0.92485	146.338	0.87181	-0.81298	0.04295	29.3390	0.65165	-176.080
2.300	0.91984	144.183	0.82748	-4.32557	0.04434	27.1262	0.66332	-177.960
2.400	0.91478	142.269	0.78973	-7.70741	0.04553	26.4539	0.67602	-179.717
2.500	0.91098	140.452	0.75697	-10.9869	0.04692	26.5970	0.69046	178.437
2.600	0.91075	138.500	0.72774	-14.3164	0.04875	26.5432	0.70306	176.415
2.700	0.90981	136.330	0.70053	-17.6197	0.05122	26.3291	0.71429	174.516
2.800	0.90780	134.185	0.67628	-20.8994	0.05419	25.9254	0.72683	172.617
2.900	0.90337	131.906	0.65284	-24.2352	0.05703	24.8914	0.73750	170.621
3.000	0.89919	129.639	0.63127	-27.4546	0.06055	24.1487	0.74689	168.631