

# 23A025

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

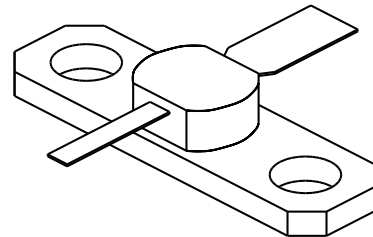
## GENERAL DESCRIPTION

The 23A025 is a COMMON EMITTER transistor capable of providing 2.5 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.

## ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C	9 Watts
<b>Maximum Voltage and Current</b>	
BVces Collector to Emitter Voltage	50 Volts
BVebo Emitter to Base Voltage	3.5 Volts
Ic Collector Current	1.2 Amps
<b>Maximum Temperatures</b>	
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
<b>Pout</b>	Power Out	F = 2.3 GHz	2.4	2.5		Watts
<b>Pin</b>	Power Input	Ic = 420 mA			0.6	Watts
<b>Pg</b>	Power Gain	Vcc = 20 Volts	6.0	6.3		dB
<b>Ft</b>	Transition Frequency	Vce = 20V, Ic = 420 mA	3.4	3.7		GHz
<b>VSWR</b>	Load Mismatch Tolerance				3:1	

<b>BVebo</b>	Emitter to Base Breakdown	Ie = 3 mA	3.5			Volts
<b>BVces</b>	Collector to Emitter Breakdown	Ic = 50 mA	50			Volts
<b>BVceo</b>	Collector to Emitter Breakdown	Ic = 30 mA	22			Volts
<b>h<sub>FE</sub></b>	DC Current Gain	Vce = 5 V, Ic = 420 mA	20			
<b>Cob</b>	Capacitance	Vcb = 28V, f = 1 MHz		6.5		pF
<b>θjc</b>	Thermal Resistance			10	11	°C/W

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## 23A025-1 (20V, 420mA)

MMICAD for Windows Thu Jul 07 12:14:40 1994  
 CIRCUIT: MES

FREQ Mhz	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.92286	-173.345	14.9738	103.893	0.01327	15.0669	0.43924	-142.101
0.200	0.95263	-177.943	7.75479	90.7075	0.01280	13.3216	0.44203	-158.433
0.300	0.95425	179.556	5.21603	82.3048	0.01350	11.7351	0.45485	-163.055
0.400	0.95608	177.587	3.91099	76.1831	0.01357	17.4178	0.46234	-164.995
0.500	0.95363	176.061	3.11751	70.9933	0.01450	18.8149	0.47534	-166.011
0.600	0.95318	174.756	2.58472	65.8622	0.01457	21.0577	0.48828	-166.747
0.700	0.95363	173.517	2.20210	60.5696	0.01503	23.8728	0.50241	-167.576
0.800	0.95509	172.465	1.91401	55.7961	0.01597	25.7092	0.51666	-168.251
0.900	0.95507	171.058	1.68892	51.1876	0.01653	26.9322	0.53159	-169.013
1.000	0.95566	169.597	1.50954	46.6582	0.01730	28.2901	0.54749	-169.870
1.100	0.95316	168.167	1.36001	42.2371	0.01791	29.0940	0.56442	-170.879
1.200	0.94946	166.727	1.23330	37.9615	0.01865	30.7563	0.58268	-172.174
1.300	0.94737	165.259	1.12795	33.7839	0.01965	31.6131	0.59967	-173.469
1.400	0.94487	163.855	1.03647	29.7651	0.02015	31.7850	0.61796	-174.888
1.500	0.94108	162.523	0.95846	25.8232	0.02117	33.4548	0.63608	-176.561
1.600	0.93606	161.554	0.89149	21.9265	0.02204	34.4838	0.65661	-178.502
1.700	0.94776	160.597	0.83132	17.8348	0.02294	33.8123	0.66911	179.438
1.800	0.95884	158.606	0.77344	13.9703	0.02425	34.8231	0.67778	177.858
1.900	0.95717	156.784	0.72219	10.4851	0.02511	35.1396	0.68957	176.496
2.000	0.95689	155.388	0.67957	7.16988	0.02633	36.1594	0.70176	175.080
2.100	0.95935	153.879	0.64206	3.75190	0.02770	35.6762	0.71423	173.803
2.200	0.95815	152.368	0.60789	0.29373	0.02902	35.4636	0.72744	172.270
2.300	0.95781	150.968	0.57615	-3.06848	0.03049	35.1669	0.73948	170.602
2.400	0.95738	149.390	0.54756	-6.43968	0.03157	34.7370	0.74839	168.896
2.500	0.95613	147.859	0.52152	-9.79053	0.03354	34.7291	0.75510	167.085
2.600	0.95546	146.437	0.49562	-13.2086	0.03501	33.3683	0.75890	165.126
2.700	0.95762	144.916	0.46989	-16.2131	0.03637	33.3263	0.75694	163.337
2.800	0.96237	143.242	0.44755	-18.8964	0.03812	32.9411	0.75508	161.994
2.900	0.96782	141.256	0.42886	-21.6223	0.04022	31.9183	0.75810	160.639
3.000	0.97115	139.280	0.41269	-24.4525	0.04265	30.4709	0.76165	159.091