GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

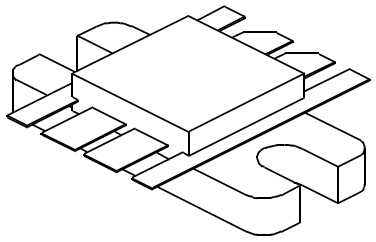
10AM12

12 Watts, 20 Volts, Class A
Linear to 1000 MHz

GENERAL DESCRIPTION

The 10AM12 is a COMMON EMITTER transistor capable of providing 12 Watts of Class A, RF output power to 1000 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.

CASE OUTLINE
55JT, STYLE 2



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC		79 Watts
Maximum Voltage and Current		
BVces	Collector to Emitter Voltage	45 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	4.0 Amps
Maximum Temperatures		
Storage Temperature		- 65 to +150ºC
Operating Junction Temperature		+200ºC

ELECTRICAL CHARACTERISTICS @ 25 ºC

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout-1dB	Power Out @ 1 dB Compr.	F = 1.0 GHz	12	13		Watts
Pin	Power Input	Ic = 3.0 A			2.0	Watts
Pg	Power Gain Small Signal	Vcc = 20 Volts	7.5	8.5		dB
Ft	Transition Frequency	Vce = 20 V, Ic =1.8 A	2.0	2.5		GHz
VSWR	Load Mismatch Tolerance				30:1	

BVebo[1]	Emitter to Base Breakdown	Ie = 12 mA	3.5			Volts
BVces[1]	Collector to Emitter Breakdown	Ic = 25 mA	45			Volts
BVceo[1]	Collector to Emitter Breakdown	Ic = 25 mA	25			Volts
h_{FE} [1]	DC Current Gain	Vce = 5V, Ic =1000 mA	20			
Cob[1]	Output Capacitance	Vcb = 28V, f =1.0 MHz		20	25	pF
θ**jc**	Thermal Resistance			2.0	2.2	ºC/W

Note 1: Per Side

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10AM12-3 (20V, 1500mA)

MMICAD for Windows Fri Aug 26 15:49:17 1994
CIRCUIT: MES

Data taken for one side of transistor, both sides equal.

FREQ	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.97287	178.155	2.01328	90.6995	0.01346	30.4341	0.65803	-175.402
0.200	0.97088	174.679	1.18202	80.4635	0.01848	46.4040	0.66649	-177.522
0.300	0.96733	171.647	0.90373	69.1605	0.02448	52.5606	0.67734	-178.568
0.400	0.95539	168.506	0.77778	57.5206	0.03214	54.2935	0.68669	-179.490
0.500	0.94049	165.150	0.72860	45.4562	0.03923	54.1152	0.69378	179.692
0.600	0.91794	161.366	0.73557	31.9206	0.04663	50.2942	0.70178	179.114
0.700	0.87243	157.057	0.79544	14.9641	0.05288	43.3255	0.71282	179.220
0.800	0.77467	153.339	0.90925	-9.37152	0.05304	31.9579	0.74744	-179.814
0.900	0.63629	159.373	0.97380	-47.3650	0.03533	22.8256	0.83677	178.652
1.000	0.71736	172.260	0.75767	-91.8559	0.02999	78.0027	0.89492	170.938
1.100	0.84672	169.552	0.48303	-126.125	0.05974	85.0126	0.87798	164.593
1.200	0.90177	163.977	0.32211	-153.130	0.08300	78.5583	0.85724	160.485
1.300	0.91947	158.506	0.24375	-178.236	0.10243	72.5856	0.84291	157.055
1.400	0.91949	152.932	0.21921	157.953	0.11986	67.2742	0.83292	153.637
1.500	0.89567	146.377	0.23642	137.114	0.13653	62.7427	0.82676	149.868
1.600	0.81626	137.831	0.30034	118.568	0.15082	59.2177	0.81454	145.813
1.700	0.56467	134.179	0.42824	91.9157	0.16618	60.9958	0.79724	142.166
1.800	0.63048	164.577	0.42872	55.2417	0.22041	60.1925	0.79800	139.025
1.900	0.82627	156.247	0.35202	41.9506	0.26583	51.8356	0.79699	134.042
2.000	0.87290	147.071	0.34492	38.5431	0.30671	45.0985	0.78580	128.674