

10AM11

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

GENERAL DESCRIPTION

The 10AM11 is a COMMON EMITTER transistor capable of providing 11 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.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 41 Watts

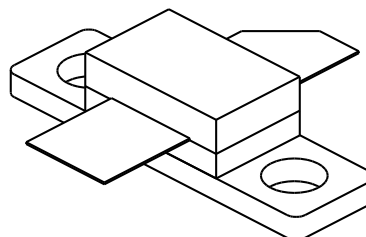
Maximum Voltage and Current

BVces	Collector to Emitter Voltage	50 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	4.0 Amps

Maximum Temperatures

Storage Temperature	- 65 to +150°C
Operating Junction Temperature	+200°C

CASE OUTLINE 55CX, STYLE 2



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1.0 GHz	11.0	14.0		Watts
Pin	Power Input	Ic = 1.8 A			1.55	Watts
Pg	Power Gain	Vcc = 20 Volts	8.5	9.0		dB
Ft	Transition Frequency	Vce = 20 V, Ic = 1.8 A	2.0	2.5		GHz
VSWR	Load Mismatch Tolerance				30:1	

BVebo	Emitter to Base Breakdown	Ie = 12 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 120 mA	50			Volts
BVceo	Collector to Emitter Breakdown	Ic = 120 mA	24			Volts
H_{FE}	DC Current Gain	Vce = 5 V, Ic = 800 mA	20			
Cob	Output Capacitance	Vcb = 28V, f = 1.0 MHz		20		pF
θjc	Thermal Resistance			2.5	4.25	°C/W

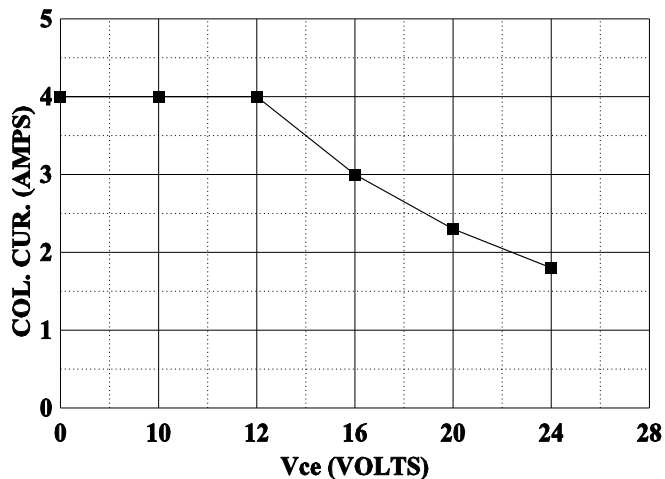
Issue February 1996

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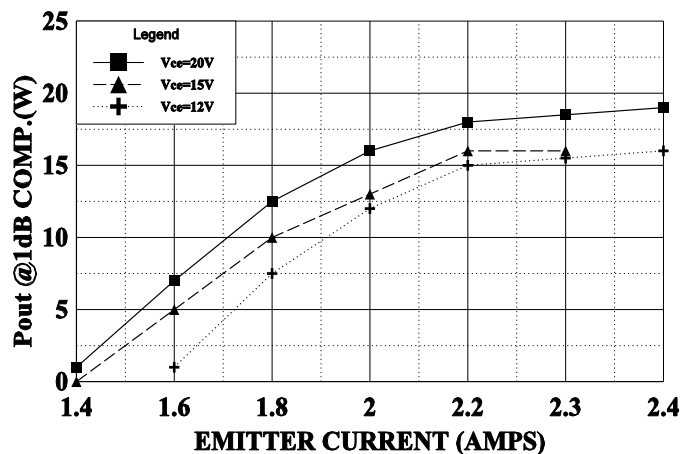
Typical Performance

DC SAFE OPERATING AREA

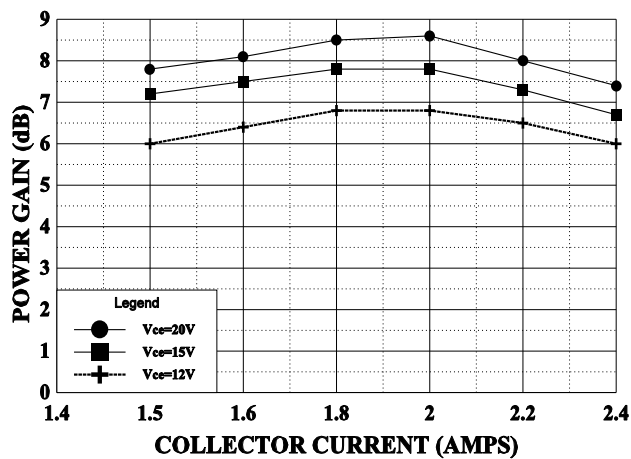


1dB COMPRESSION POINT vs EMITTER CUR.

f=1.0 GHz



GAIN vs COLLECTOR CURRENT



MMICAD for Windows Thu Jul 07 16:15:23 1994
CIRCUIT: MES

FREQ	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.98179	179.752	2.82166	85.6730	0.00874	9.20481	0.80057	-175.978
0.200	0.98069	179.102	1.43410	77.2668	0.00903	13.6561	0.80330	-178.403
0.300	0.98209	178.056	0.98044	69.5957	0.00957	17.0575	0.80418	-178.832
0.400	0.97967	177.348	0.76253	62.0014	0.01021	20.5524	0.80849	-179.288
0.500	0.97651	176.635	0.63968	54.3598	0.01096	23.3701	0.81156	-179.559
0.600	0.97150	175.857	0.56451	46.2659	0.01202	26.7440	0.81685	-179.883
0.700	0.96659	175.102	0.51999	37.4192	0.01292	24.2176	0.82087	179.972
0.800	0.95982	174.637	0.49642	27.8056	0.01435	22.0506	0.82435	179.861
0.900	0.94881	173.988	0.48973	16.7753	0.01547	16.9936	0.83090	-179.940
1.000	0.93315	173.434	0.49539	3.04422	0.01655	6.96269	0.84440	-179.447
1.100	0.91190	173.557	0.50396	-14.6576	0.01609	-7.03019	0.87035	-179.245
1.200	0.89333	174.797	0.49027	-37.4307	0.01364	-28.0882	0.91041	179.877
1.300	0.89975	176.597	0.42647	-63.1821	0.00831	-52.4521	0.94090	177.352
1.400	0.92525	177.490	0.32755	-86.9847	0.00286	-95.5215	0.94744	174.394
1.500	0.95083	176.992	0.23642	-105.909	0.00334	130.047	0.94022	172.216
1.600	0.96869	176.063	0.16929	-120.895	0.00686	108.575	0.92981	170.368
1.700	0.97913	174.893	0.12170	-133.233	0.00985	94.9925	0.91970	169.023
1.800	0.98477	173.596	0.08971	-144.343	0.01184	90.4368	0.91310	167.961
1.900	0.98801	172.498	0.06662	-154.473	0.01342	82.6840	0.90560	166.700
2.000	0.99083	171.354	0.05056	-166.029	0.01562	80.6189	0.89719	165.745