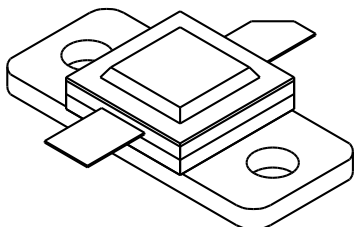


16AM12

12 Watts, 22 Volts, Class A
Linear, 1600 MHz

<p>GENERAL DESCRIPTION</p> <p>The 16AM12 is a COMMON EMITTER transistor capable of providing 12 Watts Class A, RF output power in the band 1500 - 1700 MHz. The transistor includes double input and output prematching for full broadband capability. Gold metalization and diffused ballasting are used to provide high reliability and supreme ruggedness.</p>	<p>CASE OUTLINE 55AT, STYLE 2</p>  <p>SEE NOTE BELOW</p>
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 58 Watts</p> <p>Maximum Voltage and Current</p> <p>BVces Collector to Emitter Voltage 45 Volts BVebo Emitter to Base Voltage 3.5 Volts Ic Collector Current 4.0 Amps</p> <p>Maximum Temperatures</p> <p>Storage Temperature - 65 to + 200°C Operating Junction Temperature + 200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25 °C

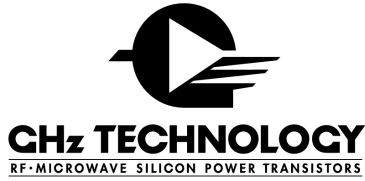
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out - 1 dB	F = 1600 MHz Vcc = 22 Volts, Icq = 2A	12		2.25	Watts
Pin	Power Input					
η	Efficiency					
Pg	Power Gain - Small Signal		8.0			dB
VSWR 1	Load Mismatch Tolerance	Pout = 12 Watts	9 : 1			

BVces	Collector to Base Breakdown	Ic = 50 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 10 mA	3.5			Volts
BVceo	Collector to Emitter Breakdown	Ic = 50 mA	24			Volts
Hfe	Current Gain	Vce = 5 V, Ic = 1 A	15			
θ_{jc}	Thermal Resistance	Tc = 25 °C		2.8	3.0	°C/W

Case Outline Note: During 1995 Ghz will be converting the 55AT style flange to the version using a slot in the mounting area, refer to 55AW.

Issue February 1996

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16AM12-1 (22V, 2000mA)

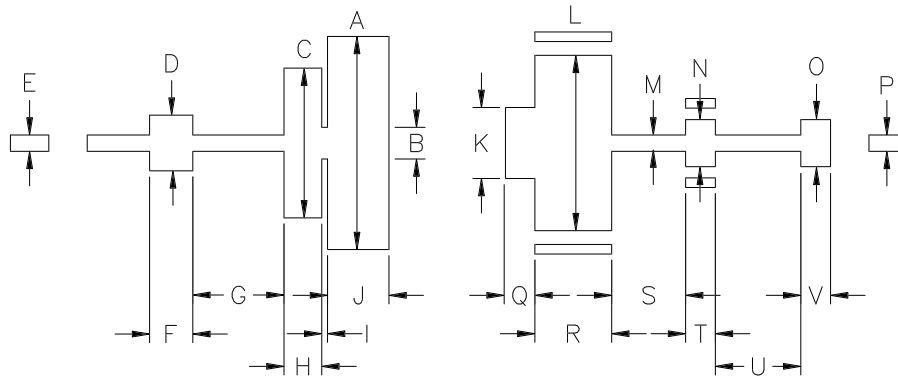
MMICAD for Windows Fri Aug 26 11:54:28 1994
 CIRCUIT: MES

FREQ MHz	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 --	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.100	0.89680	-176.003	1.90167	50.6908	0.00512	-43.4299	0.95777	-174.325
0.200	0.95338	-177.974	0.55819	23.0076	0.00235	-48.0766	0.99650	-178.160
0.300	0.97751	179.633	0.19182	8.21900	4.88E-4	14.8272	1.00774	179.528
0.400	0.98576	177.750	0.03012	27.2925	0.00176	91.5659	1.00716	177.122
0.500	0.98942	175.732	0.01703	120.602	0.00309	91.0340	1.00737	176.222
0.600	0.98902	174.185	0.07194	146.188	0.00554	83.5513	1.00654	174.218
0.700	0.99113	172.720	0.11415	140.003	0.00722	80.5427	0.99656	172.259
0.800	0.99206	171.436	0.15223	132.564	0.00899	72.4118	0.98080	170.545
0.900	0.99383	169.822	0.19453	124.805	0.01103	67.6611	0.96432	169.063
1.000	0.99307	168.140	0.24617	116.366	0.01329	60.5158	0.94720	167.704
1.100	0.98958	166.217	0.32046	107.096	0.01678	53.8139	0.92782	166.081
1.200	0.98202	163.700	0.43949	96.0593	0.02079	44.8816	0.90224	164.263
1.300	0.96126	159.860	0.66937	80.4935	0.02962	32.5082	0.85244	161.621
1.400	0.84975	153.185	1.18270	49.3619	0.04909	3.36935	0.71564	161.376
1.500	0.65810	170.122	1.44491	-17.3232	0.05599	-63.0858	0.75837	-178.668
1.600	0.85275	174.646	0.84470	-60.8617	0.03077	-108.755	0.92542	174.790
1.700	0.91750	171.077	0.54474	-80.6246	0.01921	-131.959	0.93992	169.535
1.800	0.93982	168.331	0.39984	-93.6313	0.01400	-150.634	0.93367	166.516
1.900	0.94830	166.117	0.31899	-104.068	0.01108	-165.496	0.91958	164.329
2.000	0.95322	164.273	0.27020	-113.495	0.01072	-179.143	0.90637	162.826
2.100	0.95362	162.453	0.23882	-122.539	0.01058	164.477	0.89163	161.812
2.200	0.94755	160.553	0.22150	-131.153	0.00972	157.170	0.88223	161.420
2.300	0.93538	158.875	0.21724	-140.849	0.01197	159.368	0.88162	161.376
2.400	0.91901	157.553	0.22198	-152.058	0.01525	153.406	0.88845	161.056
2.500	0.89518	156.276	0.23469	-166.381	0.01982	142.142	0.89726	160.629

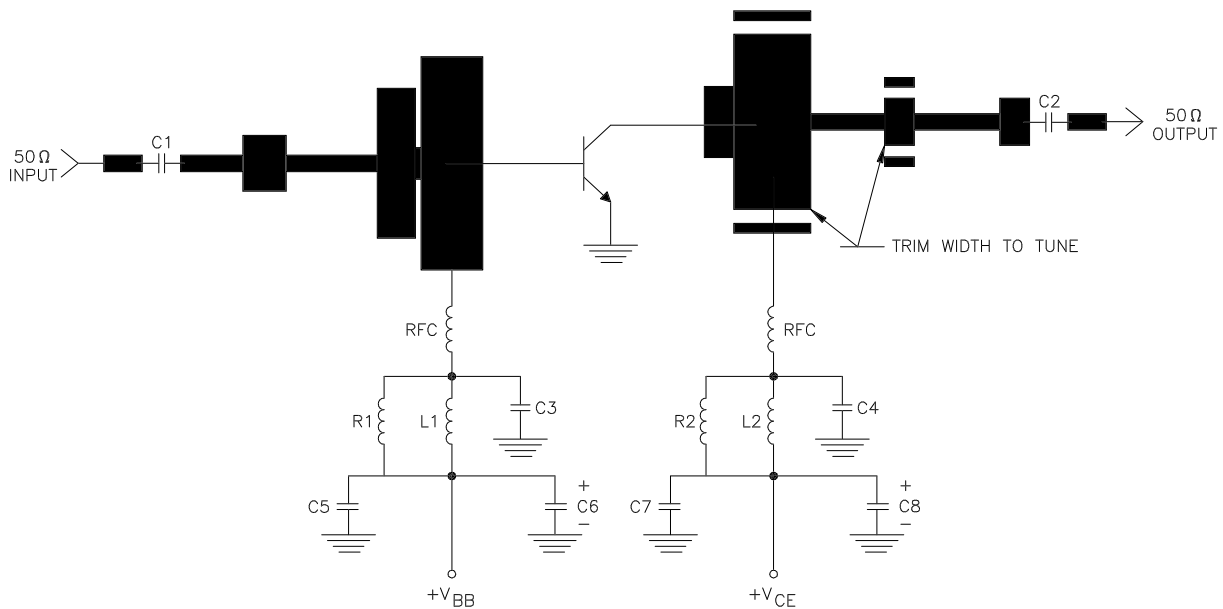
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	1.110
B	.165
C	.780
D	.290
E	.085
F	.225
G	.475
H	.197
I	.030
J	.320
K	.370
L	.912
M	.085
N	.245
O	.245
P	.085
Q	.153
R	.400
S	.385
T	.155
U	.445
V	.155



16AM12 TEST CIRCUIT



DIELECTRIC = 20 MIL THICK TFE Er = 2.3
 C1, C2, C3, C4 = 62pF CHIP ATC "B"
 C5, C7 = 0.1 MFD
 C6, C8 = 10 MFD @ 35V
 R1, R2 = 15Ω 1/2 WATT
 RFC = 4 turns #22 wire 1/16" I.D.
 L1, L2 = 10MICROHENRY



CAGE
OPJR2

DWG NO.

16AM12

REV
A

SCALE

1/1

SHEET