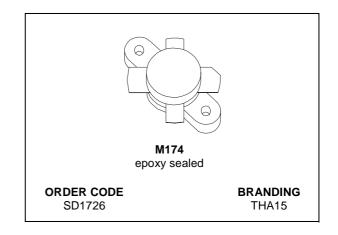


SD1726 (THA15) RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

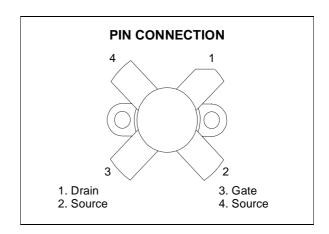
FEATURES

- OPTIMIZED FOR SSB
- 30 MHz
- 50 V
- IMD-30 dB
- COMMON EMITTER
- GOLD METALLIZATION
- POUT = 150 W PEP MIN. WITH 14 dB GAIN



DESCRIPTION

The SD1726 is a 50 V epitaxial silicon NPN planar transistor designed primarily for SSB communications. This device utilizes emitter ballasting to achieve extreme ruggedness under severe operating conditions.



ABSOLUTE MAXIMUM RATINGS (TCASE = 25 °C)

Symbol	Parameter	Value	Unit	
V _{CBO}	Collecto-Base Voltage	110	V	
V _{CEO}	Collector-Emitter Voltage	55	V	
V _{EBO}	Emitter-Base Voltage	4.0	V	
Ic	Drain Current	20	Α	
P _{DISS}	Power Dissipation	318	W	
Tj	Max. Operating Junction Temperature	+200	°C	
T _{STG}	Storage Temperature	-65 to +150	°C	

THERMAL DATA

R _{th(j-c)} Junction -Case Thermal Resistance at T _{CASE} = 70 °C	0.75	°C/W
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ELECTRICAL SPECIFICATION (T_{CASE} = 25 °C)

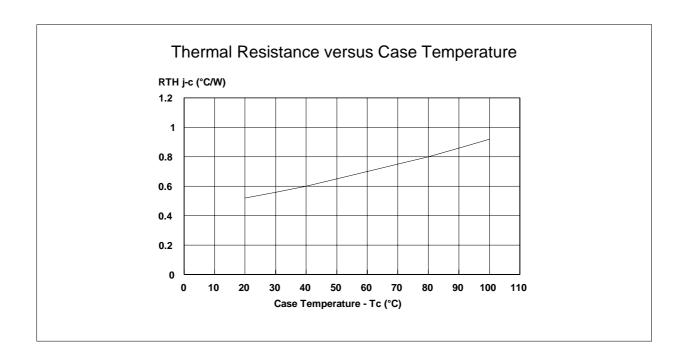
STATIC

Symbol	Test Conditions	Min.	Тур.	Max.	Unit
BV _{CBO}	$I_C = 100 \text{ mA}$ $I_E = 0 \text{ mA}$	110			V
BV _{CES}	I _C = 100 mA V _{BE} = 0 V	110			V
BV _{CEO}	I _C = 100 mA I _B = 0 mA	55			V
BV _{EBO}	I _E = 10 mA I _C = 0 mA	4.0			V
ICEO	V _{CE} = 30 V I _E = 0 mA			5	mA
I _{CES}	$V_{CE} = 60 \text{ V}$ $I_E = 0 \text{ mA}$			5	mA
h _{FE}	V _{CE} = 6 V I _C = 1.4 A	18		43.5	

DYNAMIC

Symbol	Test Conditions	Min.	Тур.	Max.	Unit
Pout	V _{CE} = 50 V I _{CQ} = 100 mA f = 30 MHz	150			W
G _P [*]	V _{CE} = 50 V I _{CQ} = 100 mA P _{OUT} = 150 W PEP	14			dB
IMD*	V _{CE} = 50 V I _{CQ} = 100 mA P _{OUT} = 150 W PEP			-30	dBc
η _D *	V _{CE} = 50 V I _{CQ} = 100 mA P _{OUT} = 150 W PEP	37			%
G _{OB}	V _{CB} = 50 V f = 1 MHz			220	pF

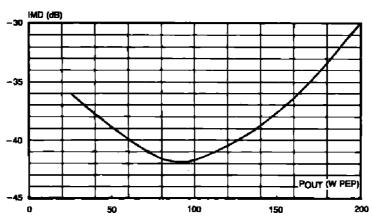
Note: The SD1726 is also usable in Class A at 40 V. Typical performance is: $P_{OUT} = 30$ W PEP, $G_P = 14$ dB, IMD = - 40 dBc * $f_1 = 30.00$ MHz; $f_2 = 30.001$ MHz



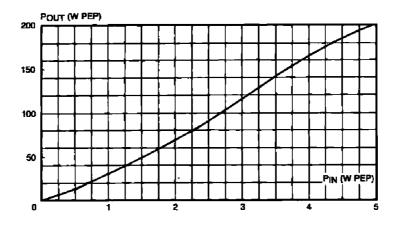
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TYPICAL PERFORMANCE

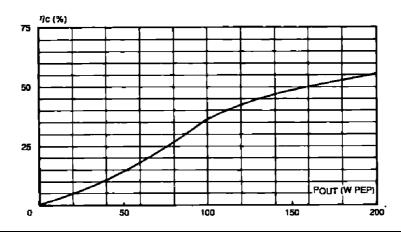




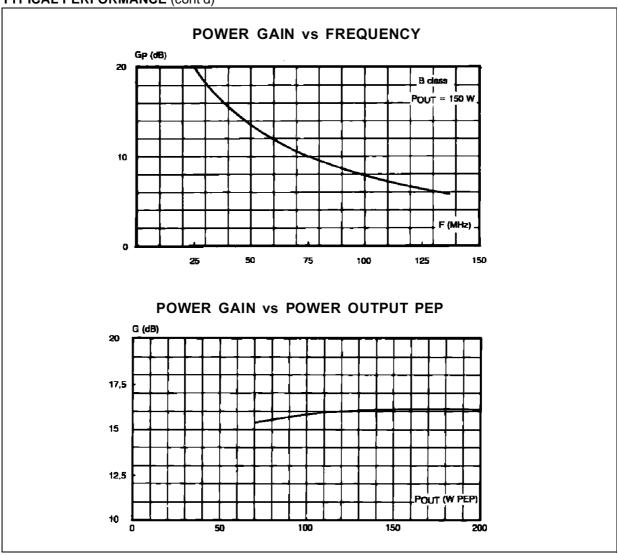
POWER OUTPUT PEP vs POWER INPUT



COLLECTOR EFFICIENCY vs POWER OUTPUT PEP

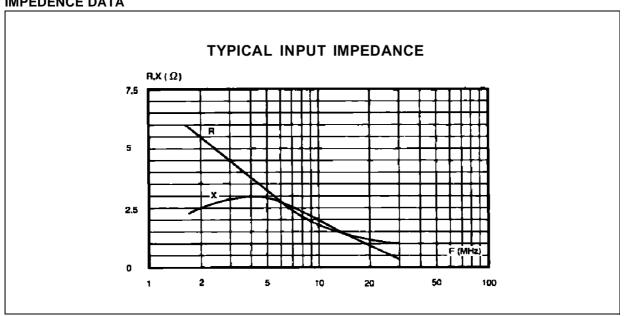


TYPICAL PERFORMANCE (cont'd)

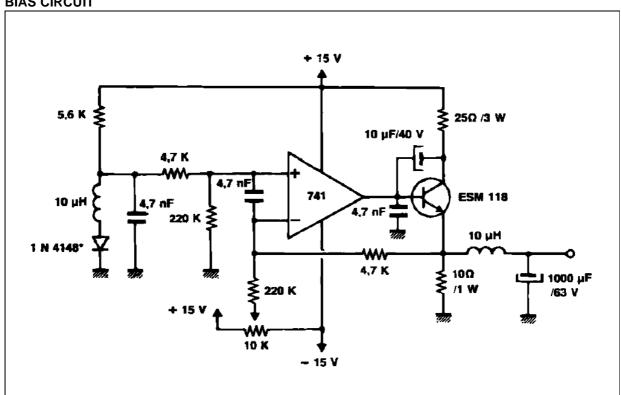


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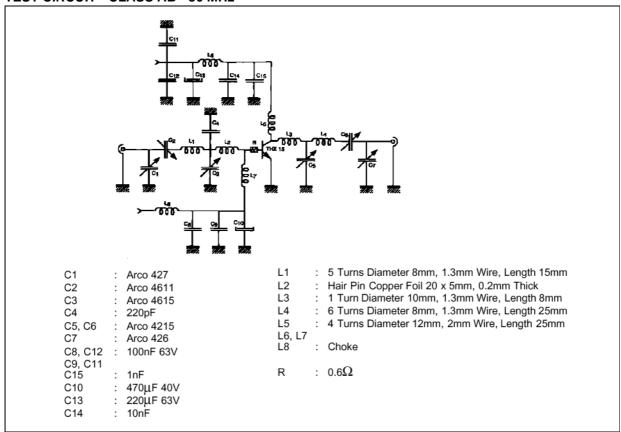
IMPEDENCE DATA



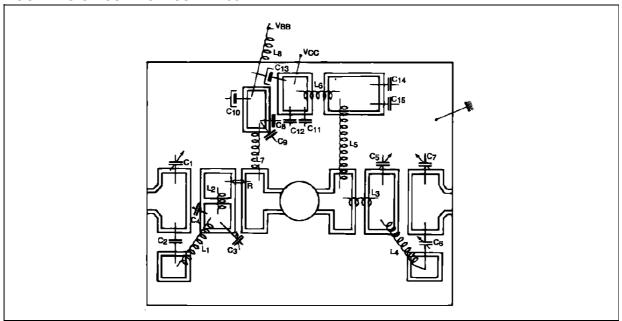
BIAS CIRCUIT



TEST CIRCUIT - CLASS AB - 30 MHz



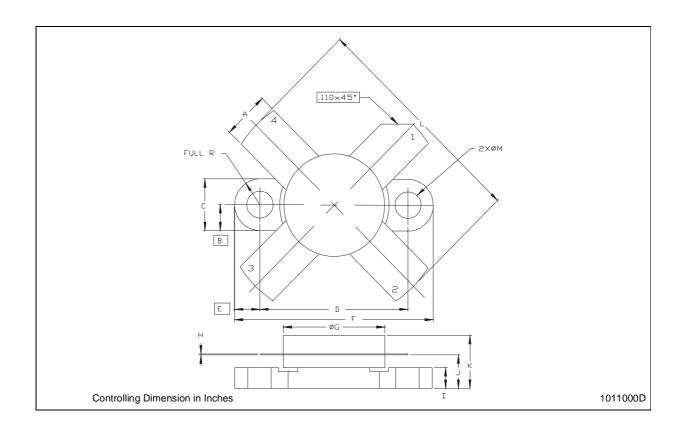
MOUNTING CIRCUIT - CLASS AB - 30 MHz



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M174 (.500 DIA 4/L N/HERM W/FLG) MECHANICAL DATA

DIM.		mm			Inch	
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
Α	5.56		5.584	0.219		0.230
В		3.18			0.125	
С	6.22		6.48	0.245		0.255
D	18.28		18.54	0.720		0.730
Е		3.18			0.125	
F	24.64		24.89	0.970		0.980
G	12.57		12.83	0.495		0.505
Н	0.08		0.18	0.003		0.007
I	2.11		3.00	0.083		0.118
J	3.81		4.45	0.150		0.175
K			7.11			0.280
L	25.53		26.67	1.005		1.050
М	3.05		3.30	0.120		0.130



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