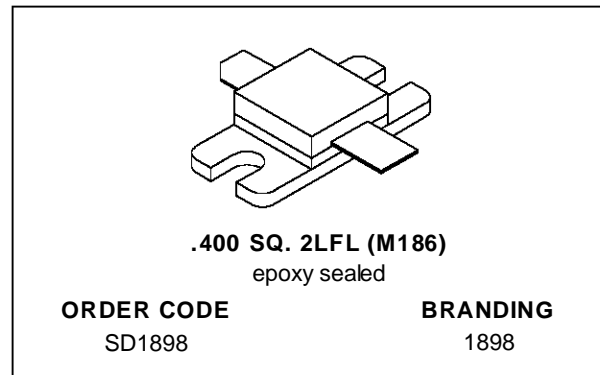
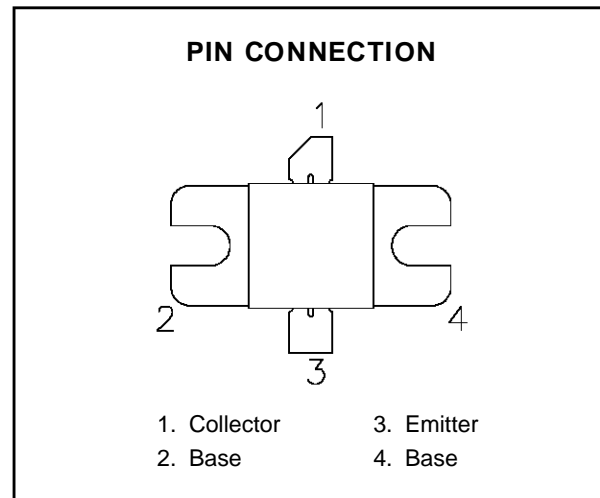


**RF & MICROWAVE TRANSISTORS
1.6 GHz SATCOM APPLICATIONS**

- 1.65 GHz
- 28 VOLTS
- EFFICIENCY 40% MIN.
- CLASS C OPERATION
- COMMON BASE
- P_{OUT} = 32 W MIN. WITH 9 dB GAIN


DESCRIPTION

The SD1898 is a 28 V Class C silicon NPN transistor designed for INMARSAT and other 1.65 GHz SATCOM applications. A gold metallized emitter-ballasted die geometry is employed providing high gain and efficiency while ensuring long term reliability and ruggedness under severe operating conditions. SD1898 is packaged in a cost-effective epoxy sealed housing.


ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	45	V
V _{CEO}	Collector-Emitter Voltage	15	V
V _{EBO}	Emitter-Base Voltage	3.5	V
I _C	Device Current	7.8	A
P _{DISS}	Power Dissipation	87.5	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	2.0	°C/W
----------------------	----------------------------------	-----	------

SD1898

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

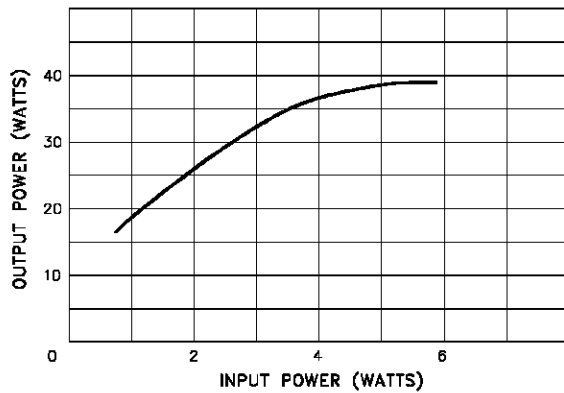
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 10mA	I _E = 0mA	45	—	—	V
BV _{CEO}	I _C = 10mA	I _B = 0mA	12	—	—	V
BV _{EBO}	I _E = 10mA	I _C = 0mA	3.5	—	—	V
h _{FE}	V _{CE} = 5V	I _C = 2A	15	—	150	—

DYNAMIC

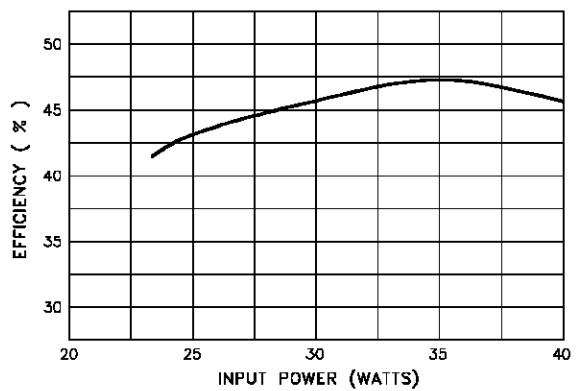
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 1.65 GHz	P _{IN} = 4.0 W	V _{CE} = 28 V	32	—	—	W
G _P	f = 1.65 GHz	P _{IN} = 4.0 W	V _{CE} = 28 V	9.0	—	—	dB
η _c	f = 1.65 GHz	P _{IN} = 4.0 W	V _{CE} = 28 V	40	—	—	%

TYPICAL PERFORMANCE

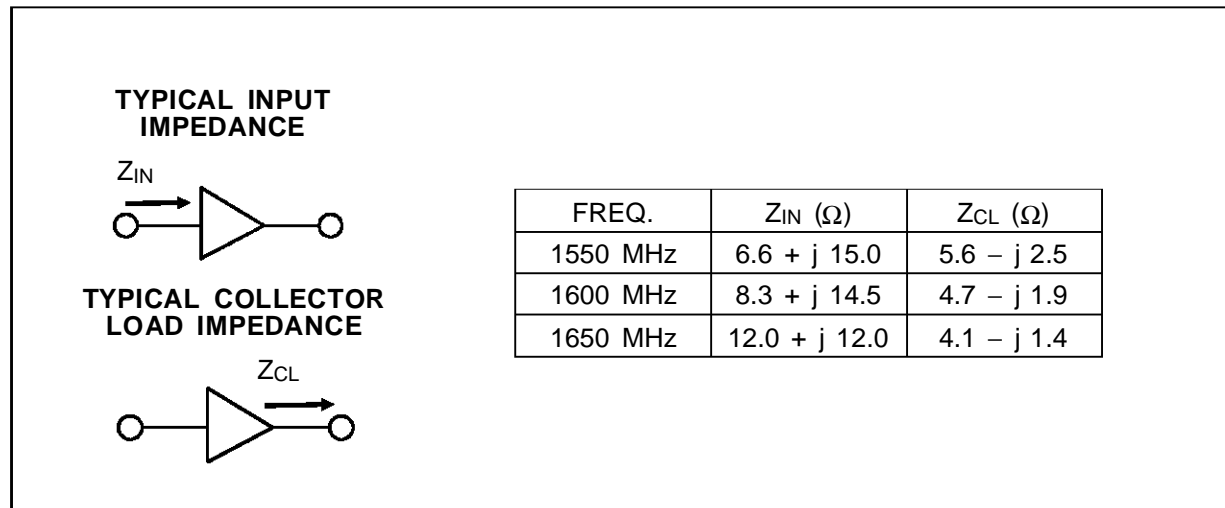
POWER OUTPUT vs POWER INPUT



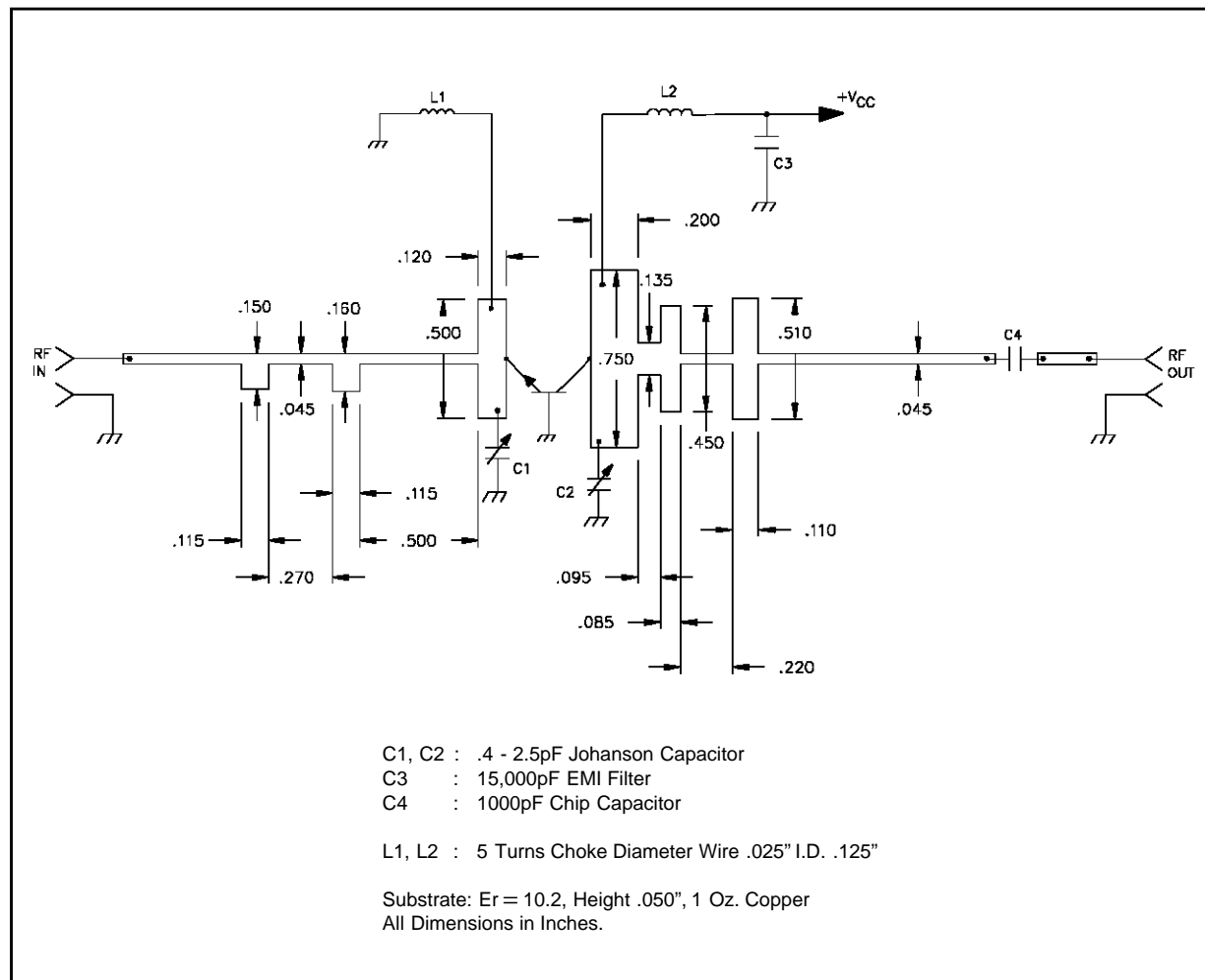
EFFICIENCY vs POWER INPUT



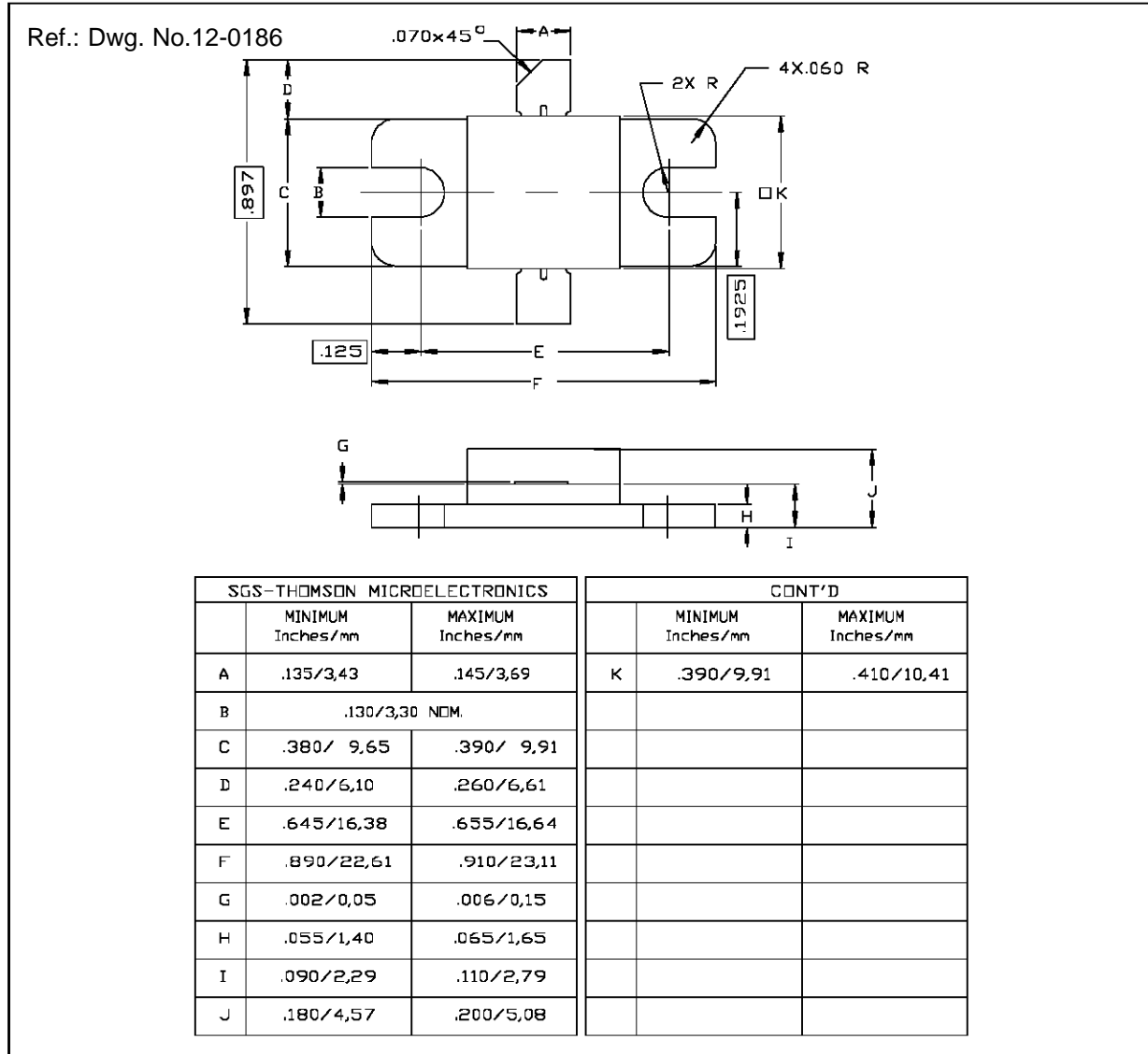
IMPEDANCE DATA



TEST CIRCUIT



PACKAGE MECHANICAL DATA



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may results from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES
 Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
 Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A