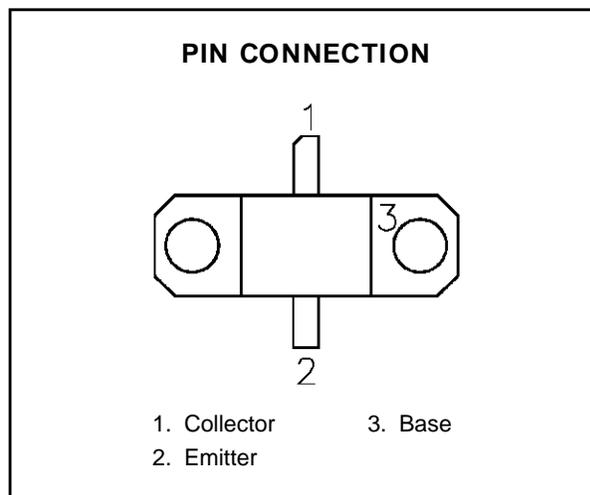
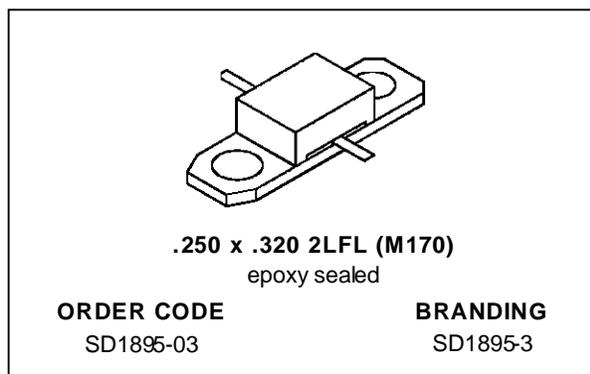


**RF & MICROWAVE TRANSISTORS
1.6 GHz SATCOM APPLICATIONS**

- 1.65 GHz
- 28 VOLTS
- OVERLAY DIE GEOMETRY
- ALL GOLD METALLIZED SYSTEM
- HIGH RELIABILITY AND RUGGEDNESS
- COMMON BASE
- $P_{OUT} = 15$ W MIN. WITH 9.2 dB GAIN


DESCRIPTION

The SD1895-03 is a 28 V silicon NPN planar transistor designed for INMARSAT and other 1.6 GHz SATCOM applications. This device utilizes polysilicon site ballasting with a gold metallized die to achieve high reliability and ruggedness.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	3.0	V
I_C	Device Current	3.0	A
P_{DISS}	Power Dissipation	37.2	W
T_J	Junction Temperature	+200	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	4.7	$^{\circ}C/W$
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SD1895-03

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

STATIC

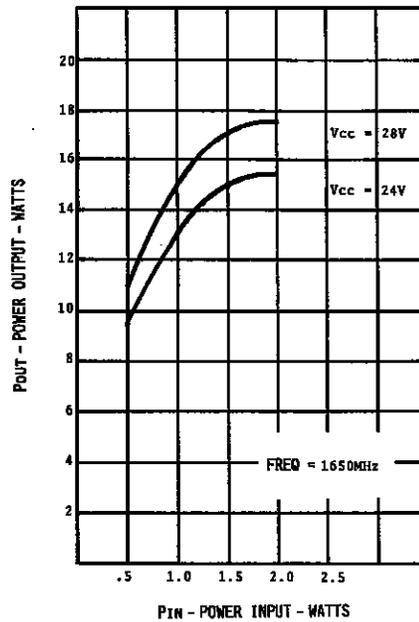
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 5 mA	I _E = 0 mA	45	—	—	V
BV _{CEO}	I _C = 5 mA	I _B = 0 mA	12	—	—	V
BV _{EBO}	I _E = 5 mA	I _C = 0 mA	3.0	—	—	V
h _{FE}	V _{CE} = 5 V	I _C = 1 A	15	—	150	—

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 1.65 GHz	P _{IN} = 2.4 W	V _{CE} = 28 V	20	—	—	W
G _P	f = 1.65 GHz	P _{IN} = 2.4 W	V _{CE} = 28 V	9.2	—	—	dB
η _c	f = 1.65 GHz	P _{IN} = 2.4 W	V _{CE} = 28 V	48	—	—	%

TYPICAL PERFORMANCE

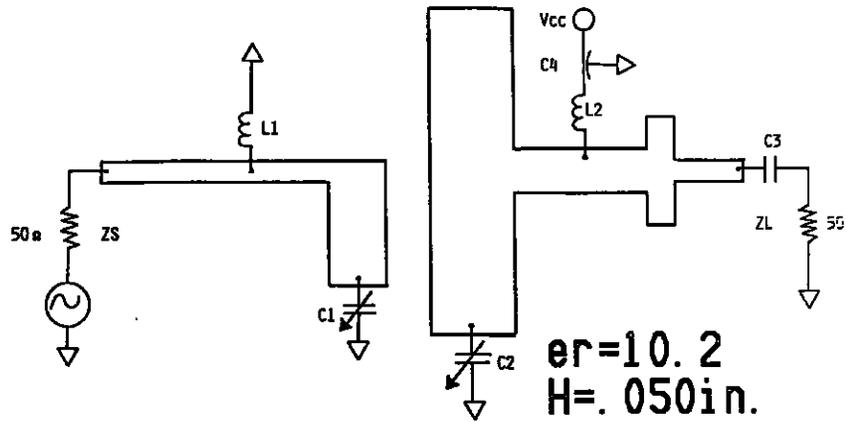
POWER OUTPUT vs POWER INPUT



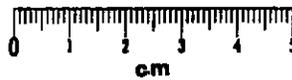
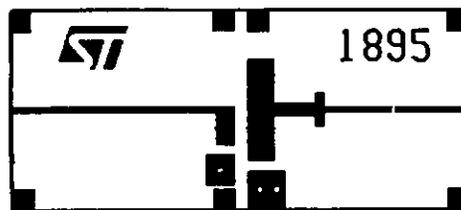
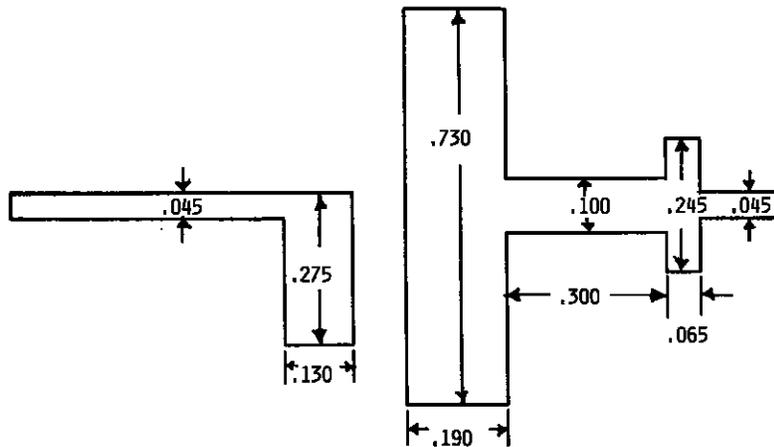
IMPEDANCE DATA

FREQ.	Z _{IN} (Ω)	Z _{CL} (Ω)
1.65 GHz	17.0 + j 18.0	3.5 - j 2.0

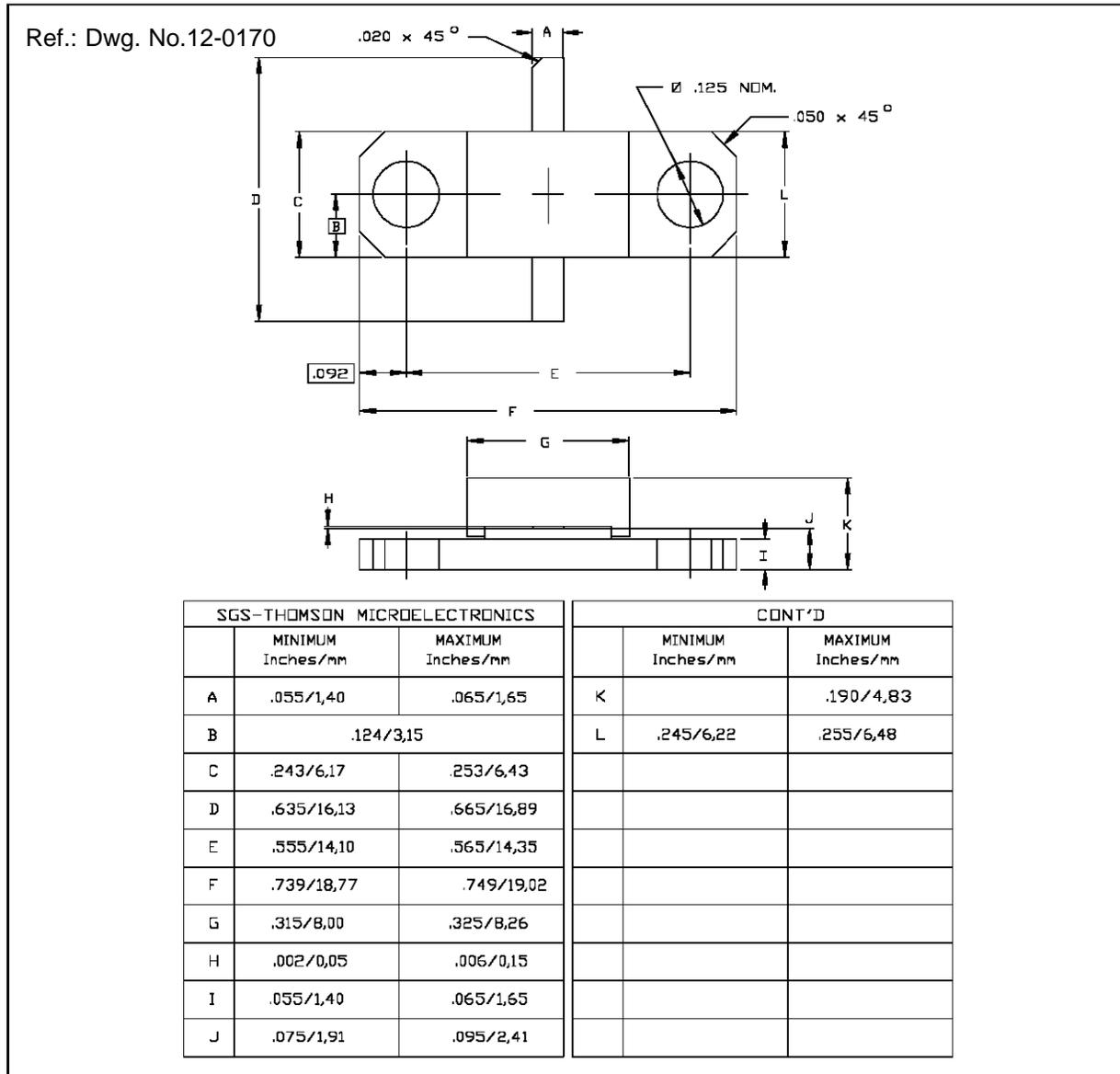
TEST CIRCUIT



- C1, C2 : 0.4 - 2.5pF #27283 Johanson Trimmer
 C3 : 100pF ATC 100A101KCA150 Chip Capacitor
 C4 : 15,000pF EMI Filter Murata/Erie #9900-381-6004
 L1, L2 : 4 Turns, #28 AWG. .080" I.D.



PACKAGE MECHANICAL DATA



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