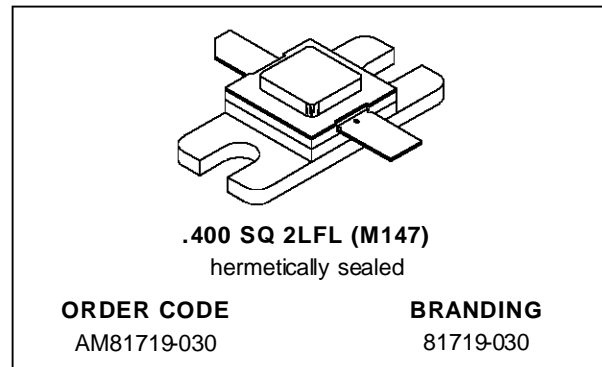


## RF & MICROWAVE TRANSISTORS TELEMETRY APPLICATIONS

PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P<sub>OUT</sub> = 28 W MIN. WITH 6.7 dB GAIN

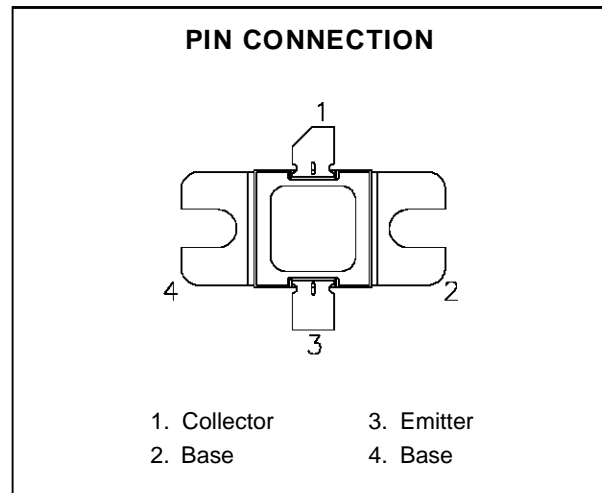


### DESCRIPTION

The AM81719-030 is a high power silicon NPN bipolar transistor designed for Class C, CW communications and telemetry applications in the 1.75 - 1.85 GHz frequency range.

An emitter site ballasted refractory/gold overlay die geometry computerized automatic wire bonding is employed to ensure long term reliability and product consistency.

AM81719-030 is supplied in the industry-standard AMPAC™ hermetic metal/ceramic package.



### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation*	67.3	W
I <sub>C</sub>	Device Current*	2.67	A
V <sub>CC</sub>	Collector-Supply Voltage*	28	V
T <sub>J</sub>	Junction Temperature	200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +200	°C

### THERMAL DATA

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance*	2.6	°C/W
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\*Applies only to rated RF amplifier operation

**ELECTRICAL SPECIFICATIONS** (Tcase = 25°C)

STATIC

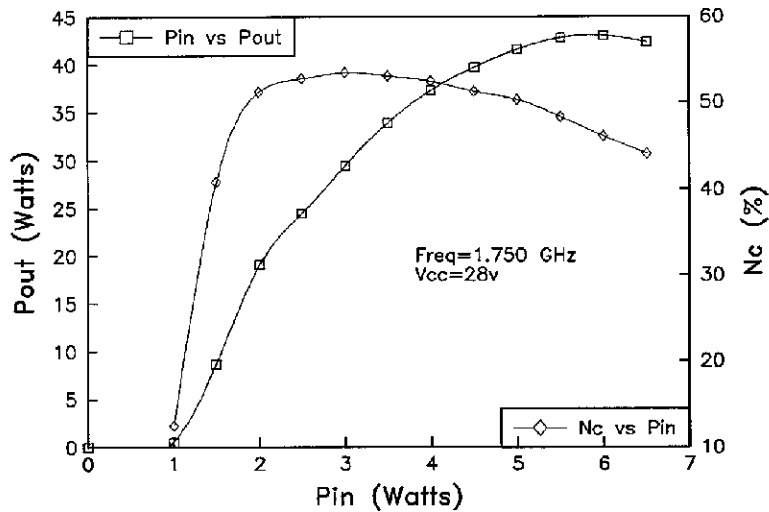
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 10mA	I <sub>E</sub> = 0mA	45	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 10mA	I <sub>C</sub> = 0mA	3.0	—	—	V
BV <sub>CES</sub>	I <sub>C</sub> = 10mA		45	—	—	V
I <sub>CES</sub>	V <sub>BE</sub> = 0V	V <sub>CE</sub> = 28V	—	—	5	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 2mA	15	—	150	—

DYNAMIC

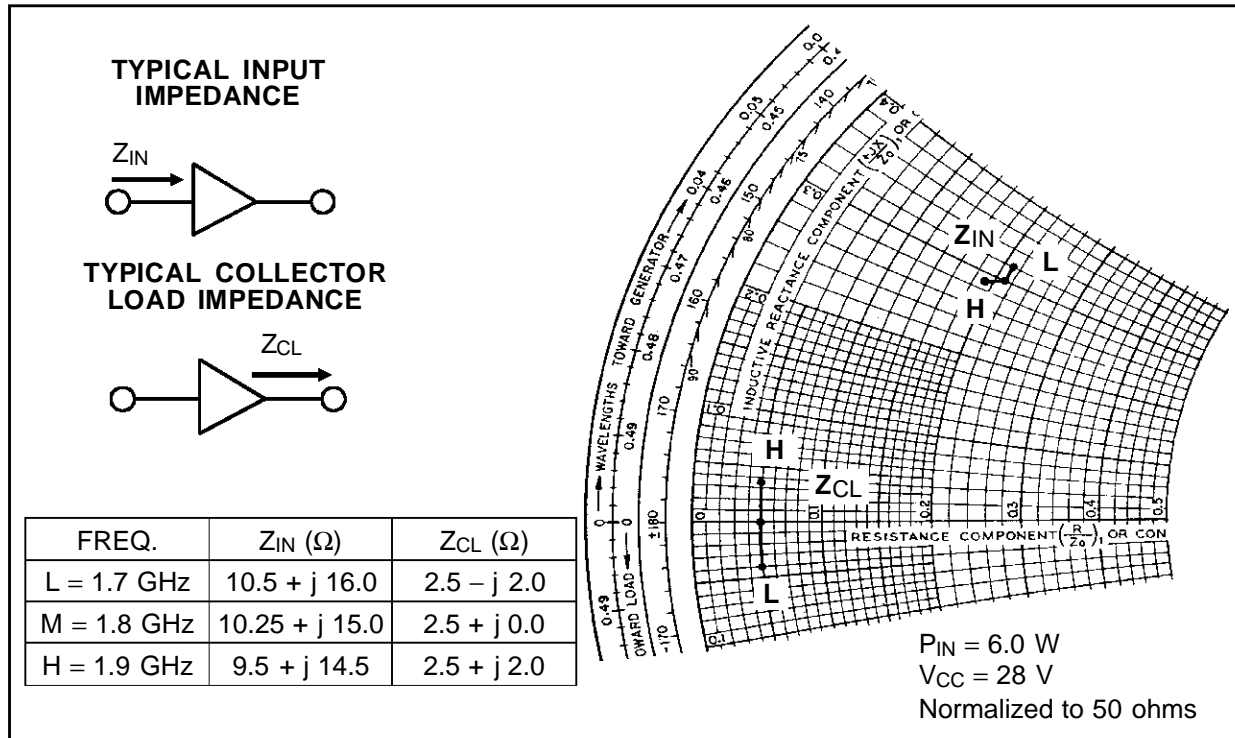
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 1.75 — 1.85GHz	P <sub>IN</sub> = 6.0W	V <sub>CC</sub> = 28V	28	—	—	W
η <sub>c</sub>	f = 1.75 — 1.85GHz	P <sub>IN</sub> = 6.0W	V <sub>CC</sub> = 28V	40	—	—	%
G <sub>P</sub>	f = 1.75 — 1.85GHz	P <sub>IN</sub> = 6.0W	V <sub>CC</sub> = 28V	6.7	—	—	dB

TYPICAL PERFORMANCE

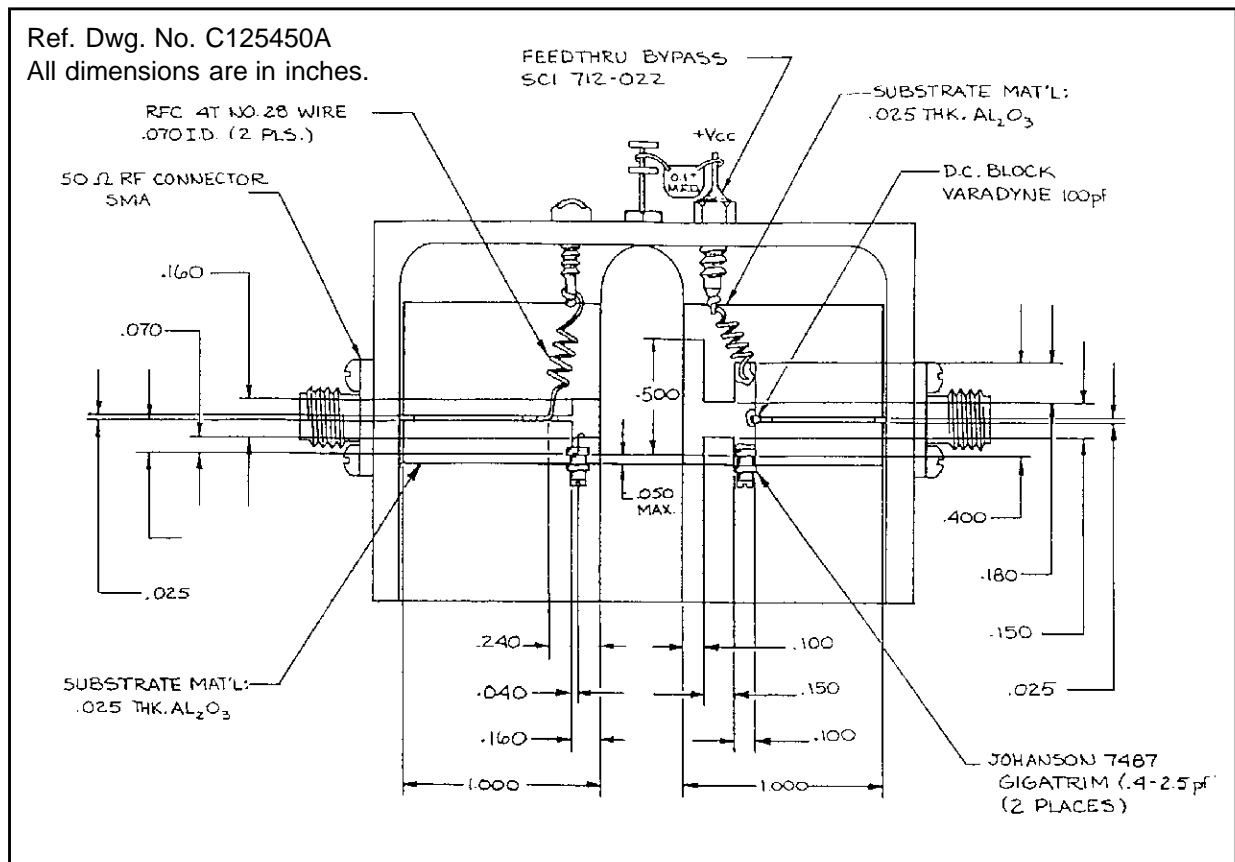
**POWER OUTPUT & COLLECTOR EFFICIENCY vs POWER INPUT**



IMPEDANCE DATA

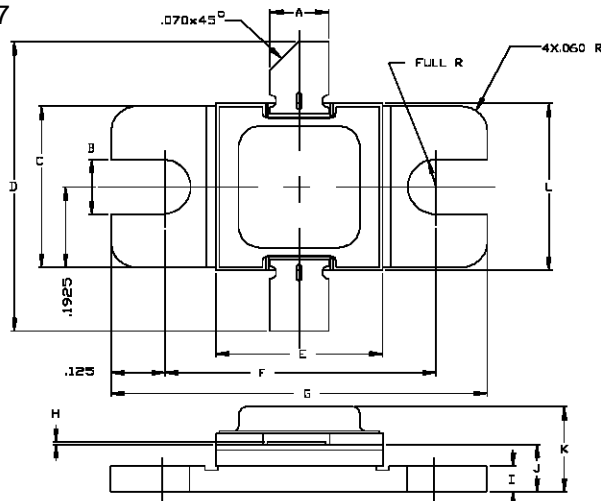


TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0147



SGS-THOMSON MICROELECTRONICS		CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.135/3,43	.145/3,68	K	.230/5,84
B	.125/3,18		L	.392/9,96
C	.380/9,65	.390/9,91		
D	.885/22,48			
E	.392/9,96	.402/10,29		
F	.645/16,38	.655/16,64		
G	.895/22,73	.905/22,99		
H	.002/0,05	.006/0,15		
I	.055/1,40	.065/1,65		
J	.105/2,67	.125/3,18		

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