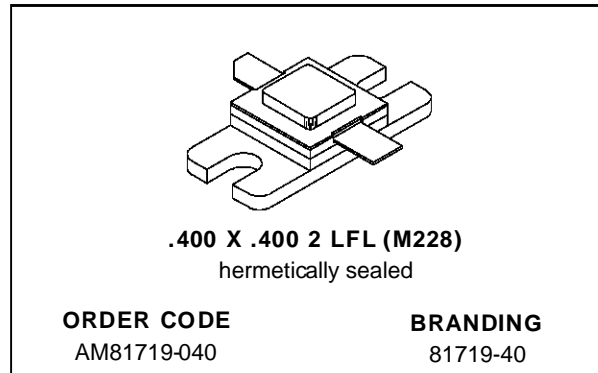


RF & MICROWAVE TRANSISTORS TELEMETRY APPLICATIONS

PRELIMINARY DATA

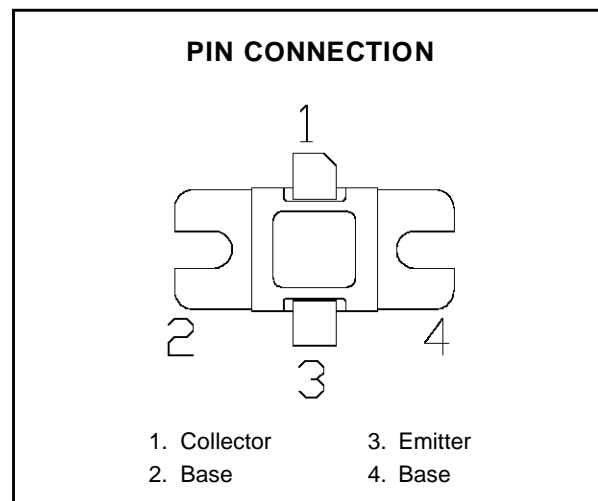
- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 40 W MIN. WITH 7 dB GAIN



DESCRIPTION

The AM81719-040 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-ballasted refractory-gold overlay die geometry with computerized automatic wire-bonding is employed to ensure long-term reliability and product consistency.



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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation*	79.5	W
I _C	Device Current*	4.8	A
V _{CC}	Collector-Supply Voltage*	30	V
T _J	Junction Temperature	200	°C
T _{STG}	Storage Temperature	- 65 to +200	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance*	2.2	°C/W
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*Applies only to rated RF amplifier operation

ELECTRICAL SPECIFICATIONS ($T_{case} = 25^{\circ}C$)

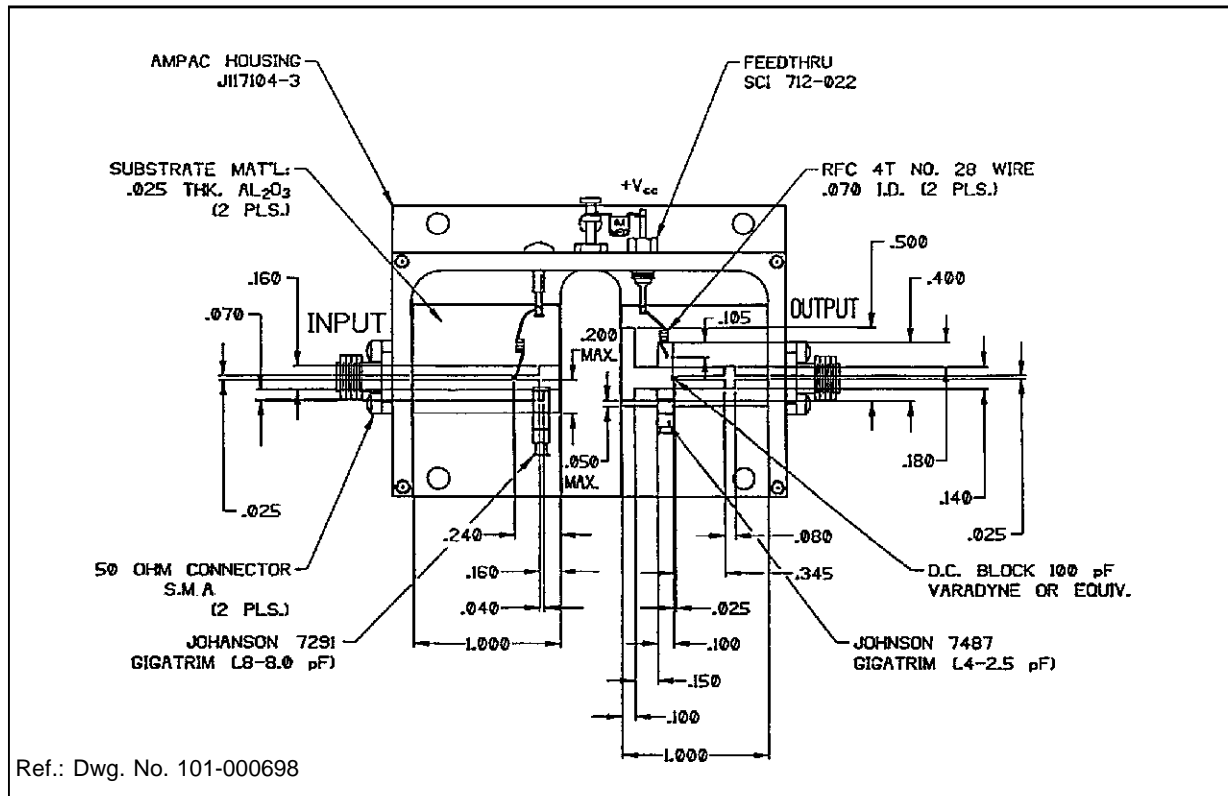
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 50\text{ mA}$	$I_E = 0\text{ mA}$	42	—	—	V
BV_{EBO}	$I_E = 4\text{ mA}$	$I_C = 0\text{ mA}$	3.5	—	—	V
BV_{CES}	$I_C = 80\text{ mA}$		45	—	—	V
I_{CBO}	$V_{CB} = 28\text{ V}$		—	—	8	mA
h_{FE}	$V_{CE} = 30\text{ V}$	$I_C = 2.5\text{ A}$	30	—	300	—

DYNAMIC

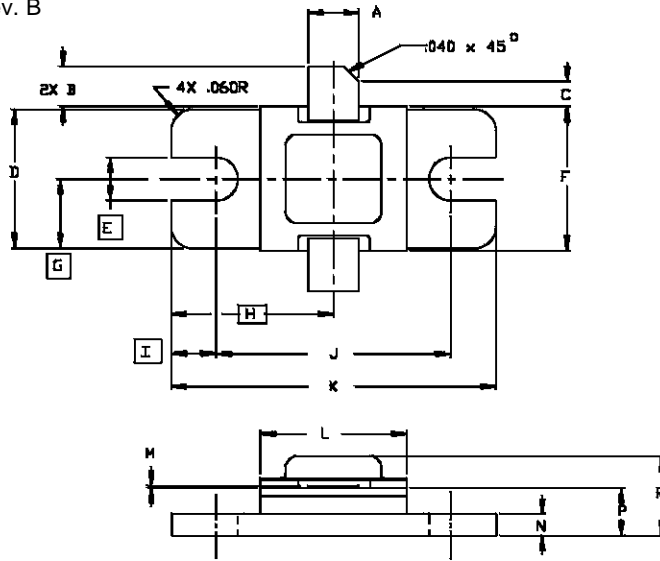
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 1750 - 1850\text{ MHz}$	$P_{IN} = 8.0\text{ W}$	$V_{CC} = 28\text{ V}$	40	—	—	W
η_C	$f = 1750 - 1850\text{ MHz}$	$P_{IN} = 8.0\text{ W}$	$V_{CC} = 28\text{ V}$	43	—	—	%
G_P	$f = 1750 - 1850\text{ MHz}$	$P_{IN} = 8.0\text{ W}$	$V_{CC} = 28\text{ V}$	6.7	—	—	dB

TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref: Dwg. No. 12-0228 rev. B



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	.890/22,61	.910/23,11
B	.100/2,54	.120/3,05	L	.395/10,03	.415/10,54
C	.050/1,27		M	.003/0,08	.006/0,15
D	.376/9,55	.396/10,06	N	.052/1,32	.072/1,83
E	.125/3,18	.135/3,43	P	.114/2,90	.130/3,30
F	.395/10,03	.407/10,34	R		.230/5,84
G	.193/4,90				
H	.450/11,43				
I	.125/3,18				
J	.640/16,26	.660/16,76			

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