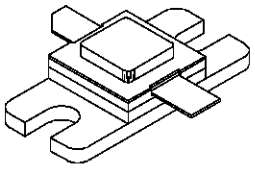
SGS-THOMSON MICROELECTRONICS

AM81719-040

RF & MICROWAVE TRANSISTORS TELEMETRY APPLICATIONS

PRELIMINARY DATA

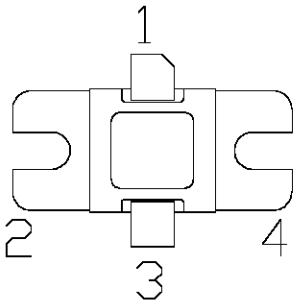
- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 40 W MIN. WITH 7 dB GAIN



.400 X .400 2 LFL (M228)
hermetically sealed

ORDER CODE	BRANDING
AM81719-040	81719-40

PIN CONNECTION



1. Collector
2. Base
3. Emitter
4. Base

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 wirebonding 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

*Applies only to rated RF amplifier operation

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

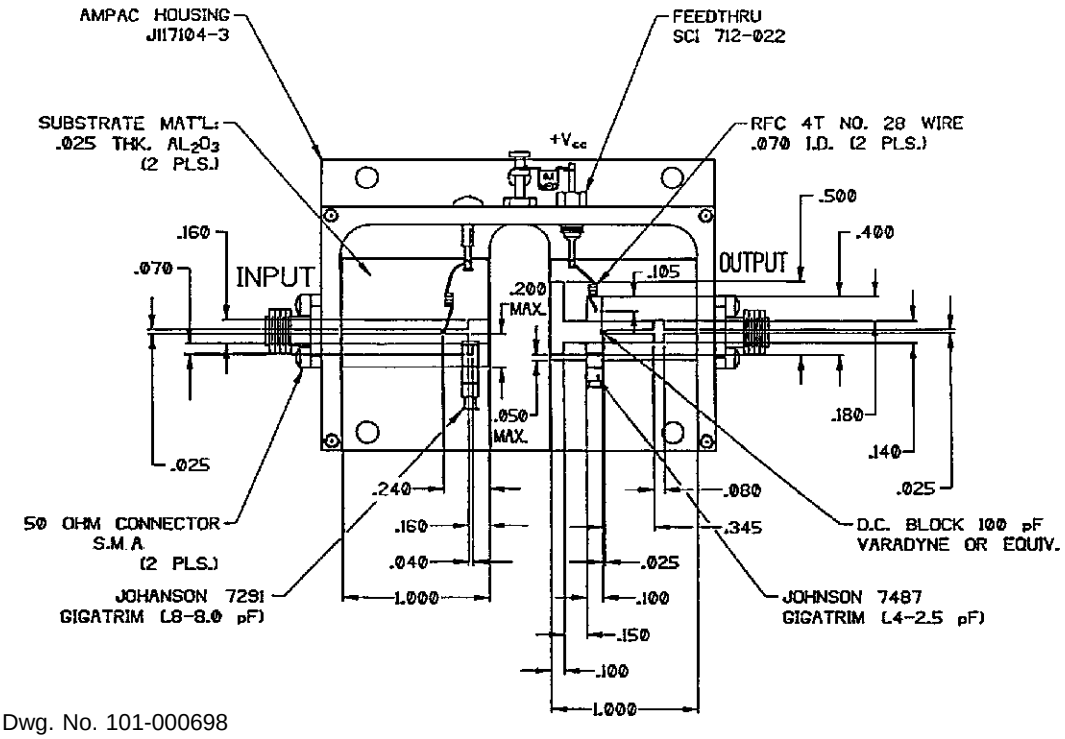
STATIC

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

DYNAMIC

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

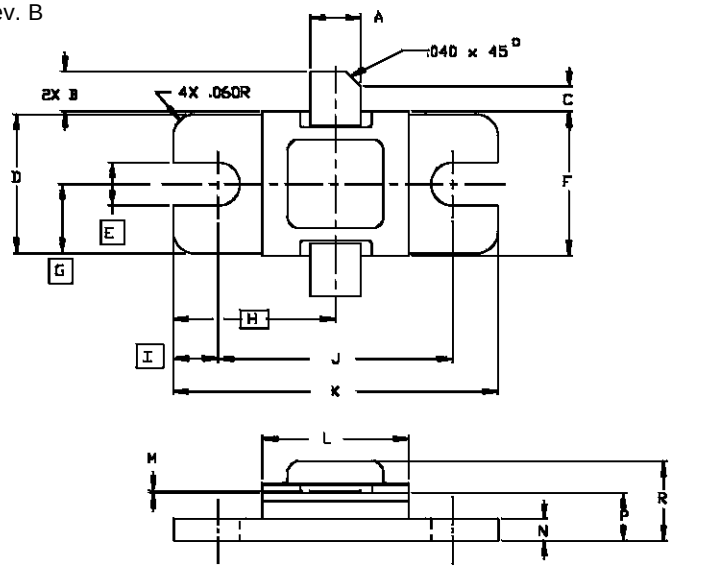
TEST CIRCUIT



Ref.: Dwg. No. 101-000698

PACKAGE MECHANICAL DATA

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



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.135/3,43	.145/3,68
B	.100/2,54	.120/3,05
C	.050/1,27	
D	.376/9,55	.396/10,06
E	.125/3,18	.135/3,43
F	.395/10,03	.407/10,34
G	.193/4,90	
H	.450/11,43	
I	.125/3,18	
J	.640/16,26	.660/16,76

CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
K	.890/22,61	.910/23,11
L	.395/10,03	.415/10,54
M	.003/0,08	.006/0,15
N	.052/1,32	.072/1,83
P	.114/2,90	.130/3,30
R		.230/5,84