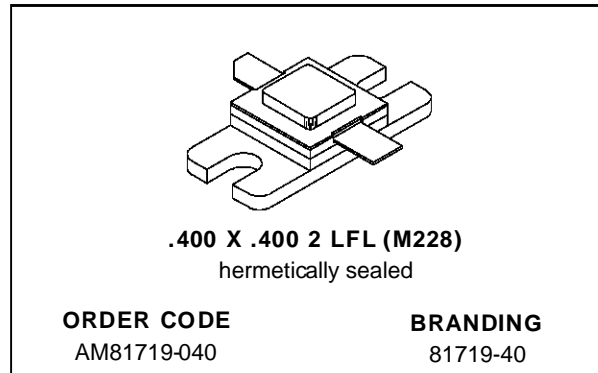


## RF & MICROWAVE TRANSISTORS TELEMETRY APPLICATIONS

PRELIMINARY DATA

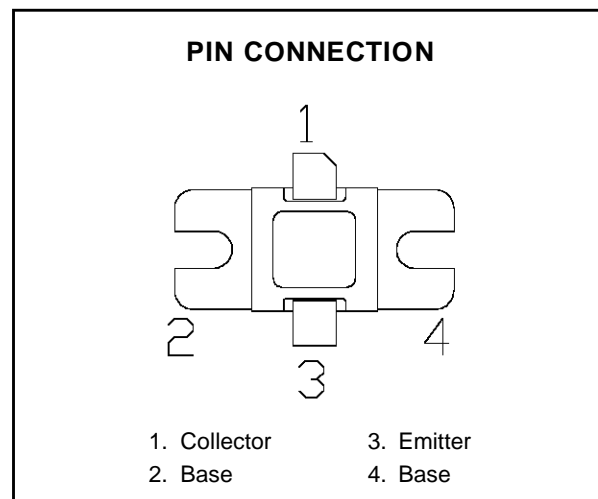
- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 40$  W MIN. WITH 7 dB GAIN



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

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	$^{\circ}C$
$T_{STG}$	Storage Temperature	- 65 to +200	$^{\circ}C$

### THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	2.2	$^{\circ}C/W$
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\*Applies only to rated RF amplifier operation

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

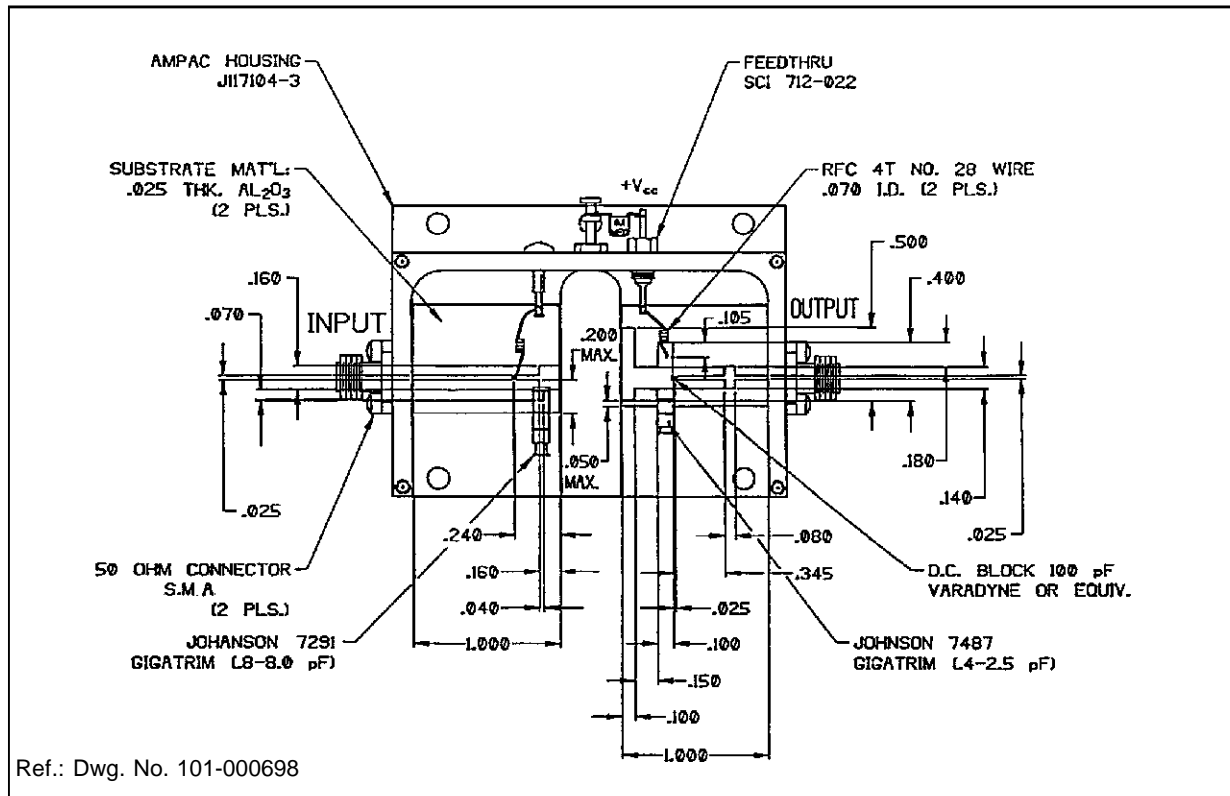
**STATIC**

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**

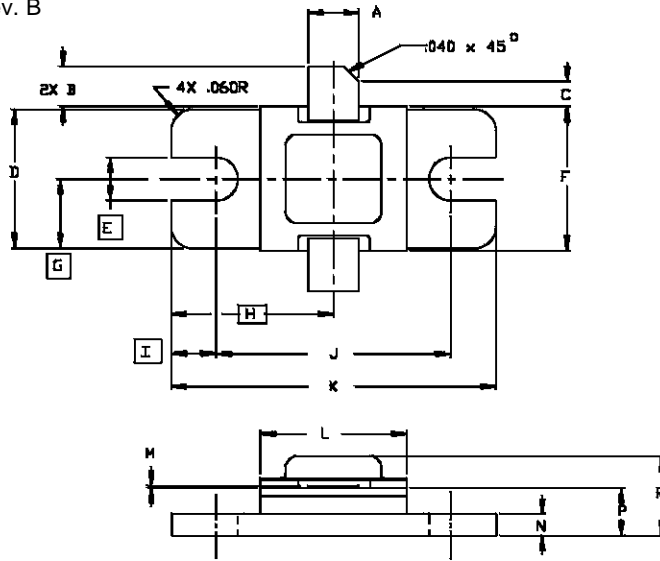
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{OUT}$	$f = 1750 - 1850\text{ MHz}$	$P_{IN} = 8.0\text{ W}$	$V_{CC} = 28\text{ V}$	40	—	—	W
$\eta_C$	$f = 1750 - 1850\text{ MHz}$	$P_{IN} = 8.0\text{ W}$	$V_{CC} = 28\text{ V}$	43	—	—	%
$G_P$	$f = 1750 - 1850\text{ MHz}$	$P_{IN} = 8.0\text{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