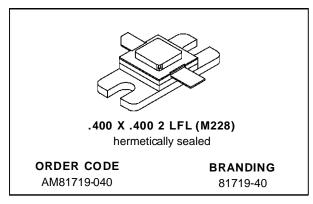


## AM81719-040

# RF & MICROWAVE TRANSISTORS TELEMETRY APPLICATIONS

PRELIMINARY DATA

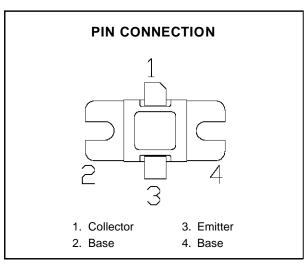
- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- Pout = 40 W MIN. WITH 7 dB GAIN



## **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 wirebonding is employed to ensure long-term reliability and product consistency.



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

	, , ,		
Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation*	79.5	W
Ic	Device Current*	4.8	Α
Vcc	Collector-Supply Voltage*	30	V
TJ	Junction Temperature	200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +200	°C

#### THERMAL DATA

	<u> </u>		
R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance*	2.2	°C/W

<sup>\*</sup>Applies only to rated RF amplifier operation

July 6, 1995

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

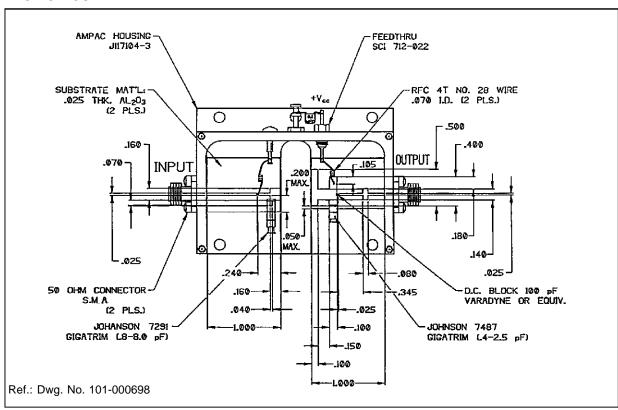
## **STATIC**

Symbol	Took Conditions	Value			11:4		
	Test Conditions		Min.	Тур.	Max.	Unit	
BV <sub>CBO</sub>	I <sub>C</sub> = 50 mA	$I_E = 0 \text{ mA}$		42	_		V
BV <sub>EBO</sub>	I <sub>E</sub> = 4 mA	$I_C = 0 \text{ mA}$		3.5	_	_	V
BV <sub>CES</sub>	I <sub>C</sub> = 80 mA			45	_	_	V
I <sub>CBO</sub>	V <sub>CB</sub> = 28 V			_	_	8	mA
hFE	V <sub>CE</sub> = 30 V	I <sub>C</sub> = 2.5 A		30	_	300	_

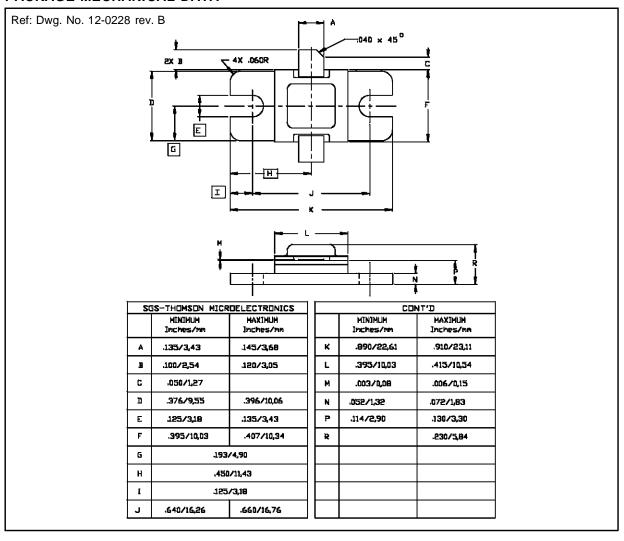
## **DYNAMIC**

Symbol	Test Conditions		Value			linit	
Symbol	rest Conditions			Min.	Тур.	Max.	Unit
Pout	f = 1750 - 1850 MHz	$P_{IN}=8.0\;W$	$V_{CC} = 28 \text{ V}$	40	_	_	W
ης	f = 1750 - 1850 MHz	$P_{IN} = 8.0 W$	$V_{CC} = 28 \text{ V}$	43	_	_	%
G <sub>P</sub>	f = 1750 - 1850 MHz	$P_{IN} = 8.0 \text{ W}$	V <sub>CC</sub> = 28 V	6.7	_	_	dB

## **TEST CIRCUIT**



#### PACKAGE MECHANICAL DATA



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

©1995 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.