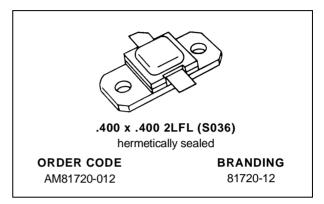


# AM81720-012

# RF & MICROWAVE TRANSISTORS COMMUNICATIONS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- RUGGIZED VSWR ∞:1
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P<sub>OUT</sub> = 12 W MIN. WITH 7.4 dB GAIN

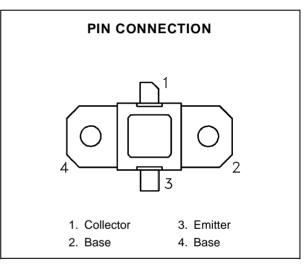


#### **DESCRIPTION**

The AM81720-012 is designed specifically for Telecommunications applications.

The device is capable of withstanding any mismatch load condition at any phase angle (VSWR ∞:1) under full rated conditions. The unit is an overlay, emitter site ballasted, geometry utilizing a refractory/gold metallization system.

The unique AMPAC™ devices are housed in Hermetic Metal/Ceramic packages with internal Input/Output matching structures.



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

Symbol	Parameter Value		Unit
P <sub>DISS</sub>	Power Dissipation*	31.8	W
Ic	Device Current*	1.47	Α
Vcc	Collector-Supply Voltage*	24	V
TJ	Junction Temperature		°C
T <sub>STG</sub>	Storage Temperature	- 65 to +200	°C

#### THERMAL DATA

R <sub>TH(j-c)</sub> Junction-Case Thermal Resistance	5.5	°C/W
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<sup>\*</sup>Applies only to rated RF amplifier operation

NOTE: Thermal Resistance determined by Infra-Red Scanning of Hot-Spot Junction Temperature at rated RF operating conditions.

September 1992

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

#### **STATIC**

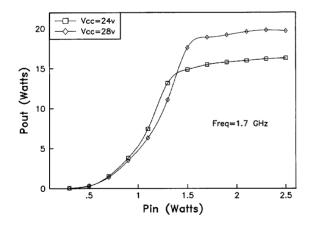
Symbol	Test Conditions	Value			IIn:4		
		Min.	Тур.	Max.	Unit		
ВУсво	$I_C = 5mA$	$I_E = 0mA$		45	_	_	V
BV <sub>EBO</sub>	I <sub>E</sub> = 5mA	$I_C = 0mA$		3.0	_	_	٧
Ісво	V <sub>CB</sub> = 24V			_	_	1.25	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 1A		15	_	150	

#### **DYNAMIC**

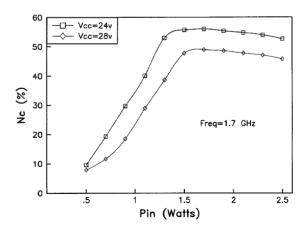
Symbol	Test Conditions		Value		Unit		
Symbol	rest conditions			Min.	Тур.	Max.	Unit
Pout	f = 1.7 — 2.0GHz	$P_{IN} = 2.2W$	$V_{CC} = 24V$	12	_	_	W
ης	f = 1.7 — 2.0GHz	$P_{IN} = 2.2W$	$V_{CC} = 24V$	40			%
G <sub>P</sub>	f = 1.7 — 2.0GHz	$P_{IN} = 2.2W$	$V_{CC} = 24V$	7.4	_		dB

#### **TYPICAL PERFORMANCE**

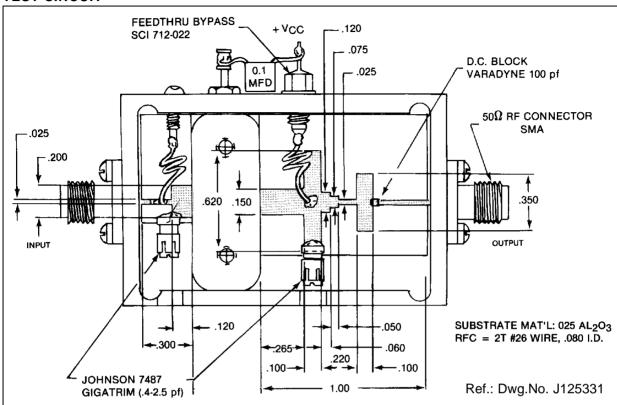
#### **POWER OUTPUT vs POWER INPUT**



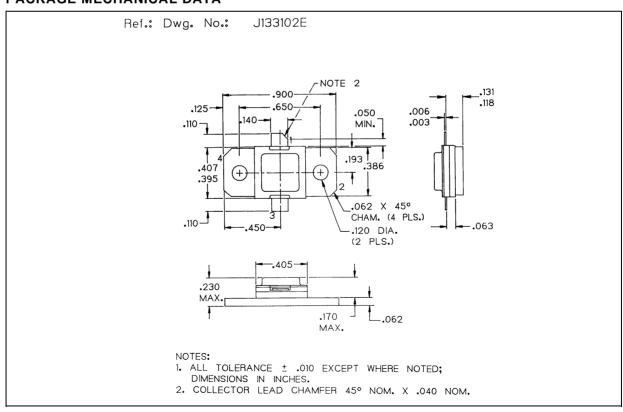
### COLLECTOR EFFICIENCY vs POWER INPUT



#### **TEST CIRCUIT**



### **PACKAGE MECHANICAL DATA**



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