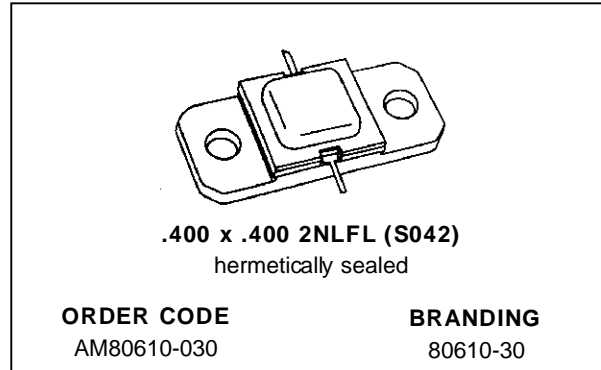


## RF & MICROWAVE TRANSISTORS UHF COMMUNICATIONS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- INPUT/OUTPUT MATCHING
- METAL/CERAMIC HERMETIC PACKAGE
- P<sub>OUT</sub> = 30 W MIN. WITH 8.5 dB GAIN

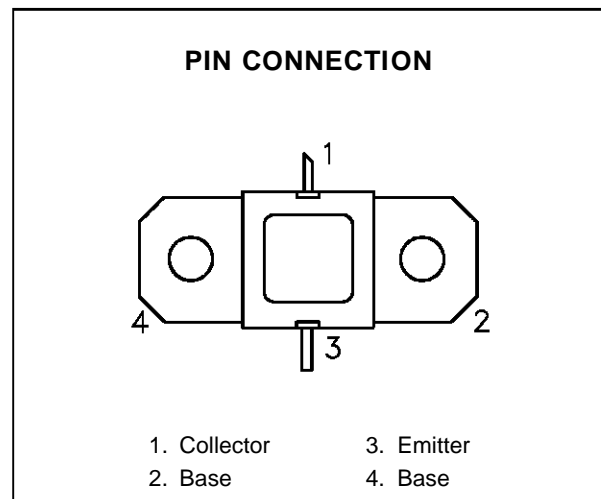


### DESCRIPTION

The AM80610-030 is a high power, common base NPN silicon bipolar device optimized for CW operation in the 620 - 960 MHz frequency range.

AM80610-030 utilizes a rugged, overlay, emitter-ballasted L-Band die geometry to achieve high gain and collector efficiency and is suitable for driver or output stage use in Class C power amplifiers. Typical applications include military communications, ECM, and test equipment.

The AM80610-030 is provided in the industry-standard, metal/ceramic AMPAC™ hermetic package.



### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation* (T <sub>C</sub> ≤ 50°C)	57	W
I <sub>C</sub>	Device Current*	3.0	A
V <sub>CC</sub>	Collector-Supply Voltage*	32	V
T <sub>J</sub>	Junction Temperature	200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +200	°C

### THERMAL DATA

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance*	2.6	°C/W
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\*Applies only to rated RF amplifier operation

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

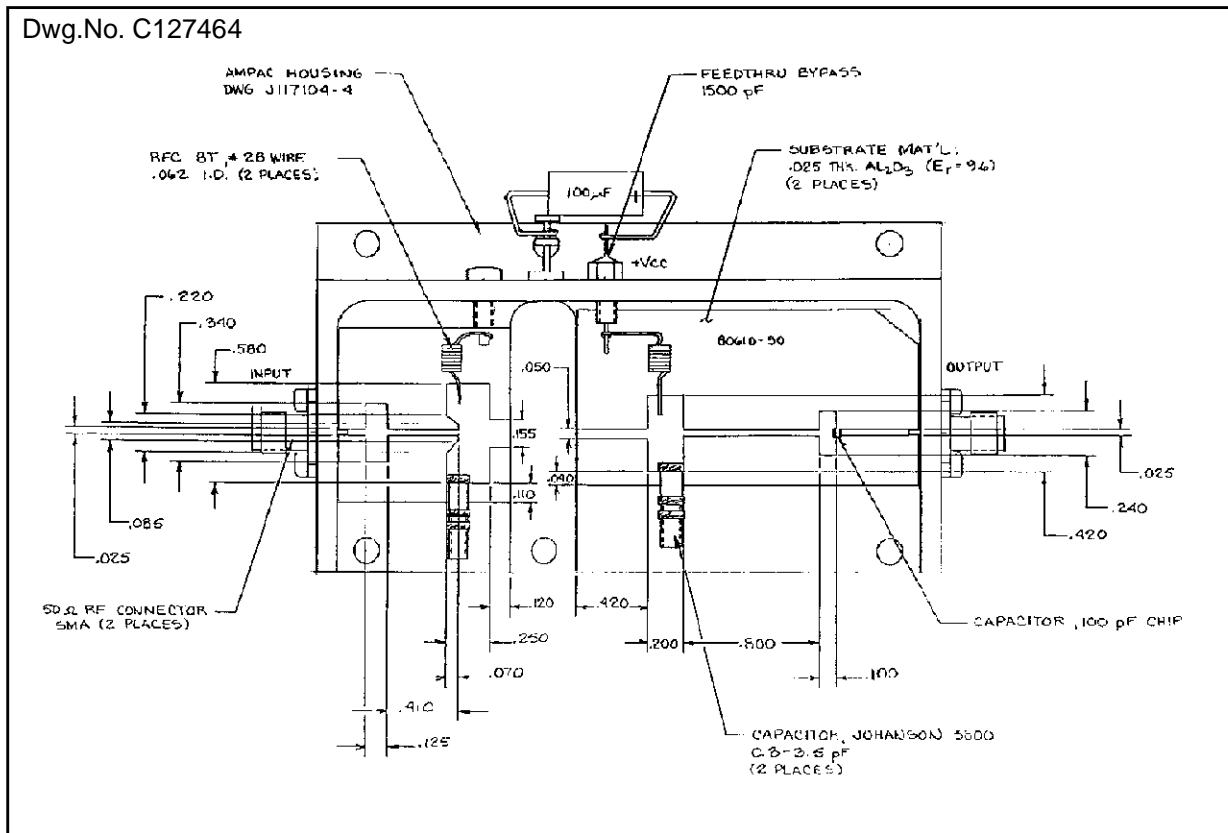
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 20\text{ mA}$	$I_E = 0\text{ mA}$	55	—	—	V
$BV_{EBO}$	$I_E = 2\text{ mA}$	$I_C = 0\text{ mA}$	3.5	—	—	V
$BV_{CER}$	$I_C = 40\text{ mA}$	$R_{BE} = 10\ \Omega$	55	—	—	V
$I_{CES}$	$V_{BE} = 0\text{ V}$	$V_{CE} = 28\text{ V}$	—	—	10	mA
$h_{FE}$	$V_{CE} = 5\text{ V}$	$I_C = 2\text{ A}$	15	—	150	—

DYNAMIC

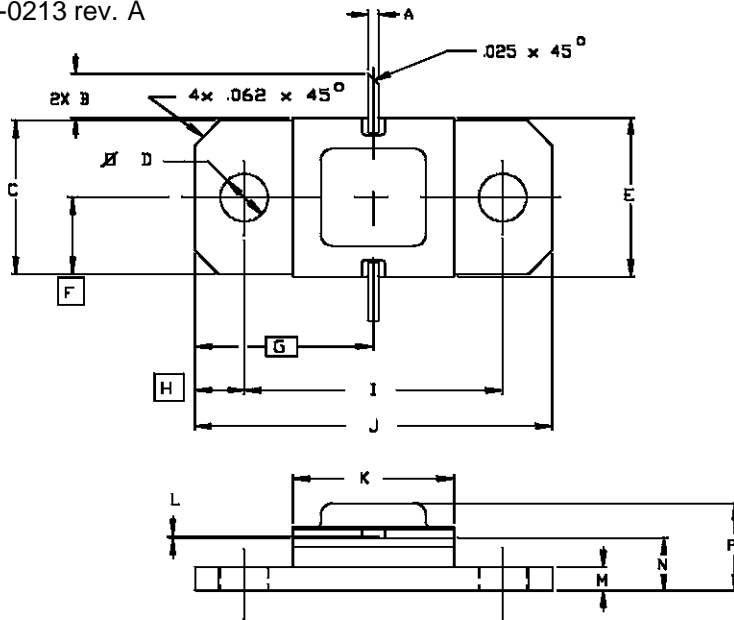
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{OUT}$	$f = 620 - 960\text{ MHz}$	$P_{IN} = 4.2\text{ W}$	$V_{CC} = 28\text{ V}$	30	—	—	W
$\eta_C$	$f = 620 - 960\text{ MHz}$	$P_{IN} = 4.2\text{ W}$	$V_{CC} = 28\text{ V}$	50	—	—	%
GP	$f = 620 - 960\text{ MHz}$	$P_{IN} = 4.2\text{ W}$	$V_{CC} = 28\text{ V}$	8.5	—	—	dB

**TEST CIRCUIT**



PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0213 rev. A



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.020/0,51	.030/0,76	K	.395/10,03	.415/10,54
B	.100/2,54		L	.004/0,10	.006/0,18
C	.376/9,55	.396/10,06	M	.052/1,32	.072/1,83
D	.110/2,79	.130/3,30	N	.118/3,00	.131/3,33
E	.395/10,03	.407/10,34	P		.230/5,84
F	.193/4,90				
G	.450/11,43				
H	.125/3,18				
I	.640/16,26	.660/16,76			
J	.890/22,61	.910/23,11			

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