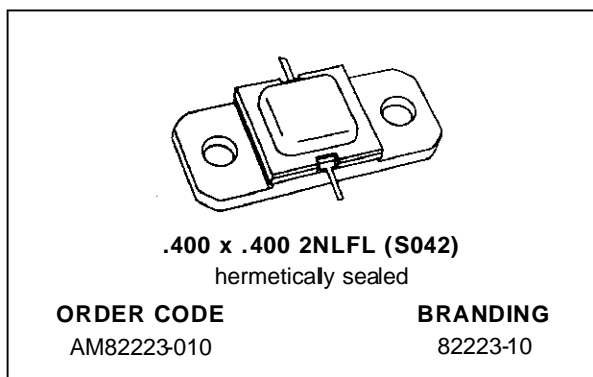


RF & MICROWAVE TRANSISTORS TELEMETRY APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- ∞ :1 VSWR CAPABILITY AT RATED CONDITIONS
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 9$ W MIN. WITH 6.5 dB GAIN

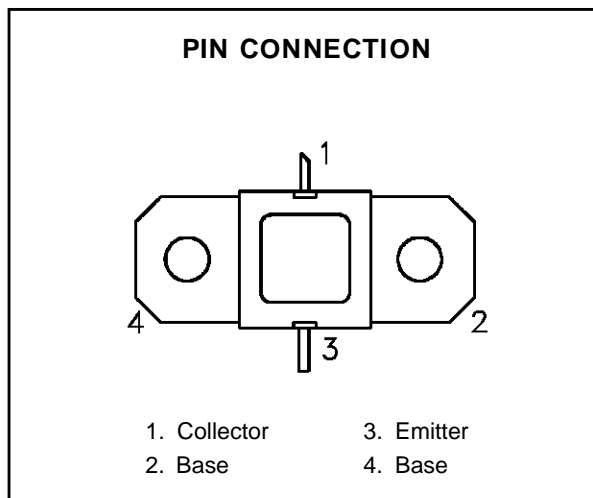


DESCRIPTION

The AM82223-010 is a common base, silicon NPN bipolar transistor designed for high gain and efficiency in the 2.2 – 2.3 GHz frequency range.

Suitable for hi-rel aerospace telemetry applications, the AM82223-010 is provided in the industry-standard AMPAC™ metal/ceramic hermetic package and incorporates internal input and output impedance matching structures along with a rugged, emitter-site ballasted overlay die geometry.

AM82223-010 is capable of withstanding ∞ :1 load mismatch at any phase angle under full rated operating conditions.



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

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 75^{\circ}C$)	28	W
I_C	Device Current*	1.2	A
V_{CC}	Collector-Supply Voltage*	26	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	4.4	$^{\circ}C/W$
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*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.

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

STATIC

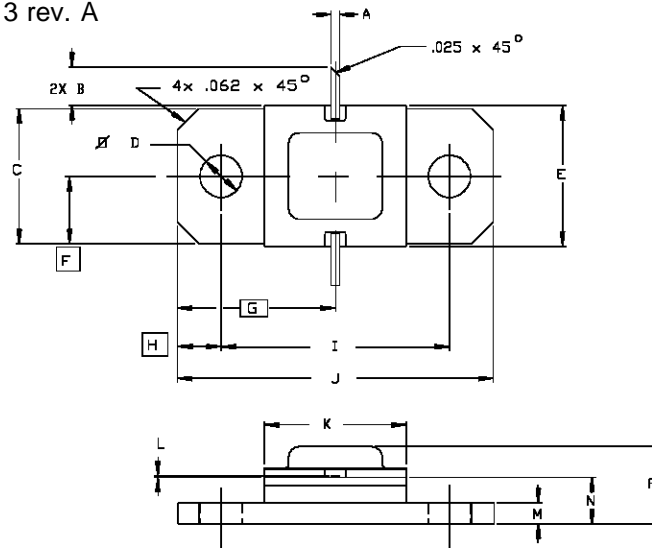
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 5 \text{ mA}$	$I_{\text{E}} = 0 \text{ mA}$	45	—	—	V	
BV_{CER}	$I_{\text{C}} = 10 \text{ mA}$	$R_{\text{BE}} = 10 \Omega$	45	—	—	V	
BV_{EBO}	$I_{\text{E}} = 1 \text{ mA}$	$I_{\text{C}} = 0 \text{ mA}$	3.5	—	—	V	
I_{CBO}	$V_{\text{CB}} = 24 \text{ V}$		—	—	1	mA	
h_{FE}	$V_{\text{CE}} = 5 \text{ V}$	$I_{\text{C}} = 750 \text{ mA}$	20	—	300	—	

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 2.2 - 2.3 \text{ GHz}$	$P_{\text{IN}} = 2.0 \text{ W}$	$V_{\text{CC}} = 24 \text{ V}$	9.0	—	—	W
η_{c}	$f = 2.2 - 2.3 \text{ GHz}$	$P_{\text{IN}} = 2.0 \text{ W}$	$V_{\text{CC}} = 24 \text{ V}$	40	—	—	%
P_{G}	$f = 2.2 - 2.3 \text{ GHz}$	$P_{\text{IN}} = 2.0 \text{ W}$	$V_{\text{CC}} = 24 \text{ V}$	6.5	—	—	dB

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	.540/16,25	.560/16,76			
J	.890/22,61	.910/23,11			

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