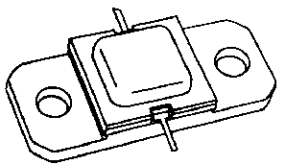
SGS-THOMSON MICROELECTRONICS

AM82223-010

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



.400 x .400 2NLFL (S042)
hermetically sealed

ORDER CODE	BRANDING
AM82223-010	82223-10

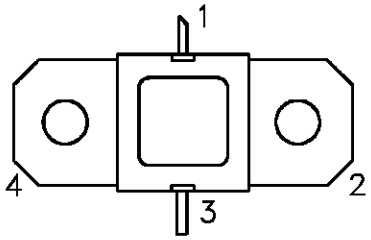
DESCRIPTION

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.

PIN CONNECTION



1. Collector
2. Base
3. Emitter
4. Base

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 75°C$)	28	W
I_C	Device Current*	1.2	A
V_{CC}	Collector-Supply Voltage*	26	V
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	– 65 to +200	°C

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	4.4	°C/W

*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_{case} = 25°C)

STATIC

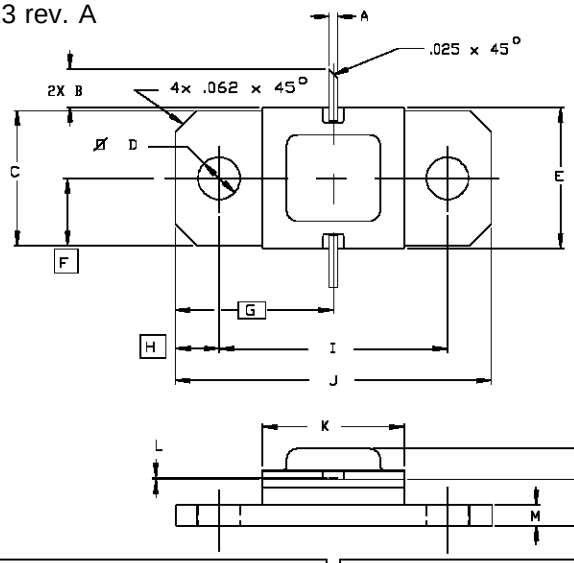
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 5 mA	I_E = 0 mA	45	—	—	V
BV_{CER}	I_C = 10 mA	R_{BE} = 10 Ω	45	—	—	V
BV_{EBO}	I_E = 1 mA	I_C = 0 mA	3.5	—	—	V
I_{CBO}	V_{CB} = 24 V		—	—	1	mA
h_{FE}	V_{CE} = 5 V	I_C = 750 mA	20	—	300	—

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 2.2 – 2.3 GHz	P_{IN} = 2.0 W	V_{CC} = 24 V	9.0	—	—	W
η_c	f = 2.2 – 2.3 GHz	P_{IN} = 2.0 W	V_{CC} = 24 V	40	—	—	%
P_G	f = 2.2 – 2.3 GHz	P_{IN} = 2.0 W	V_{CC} = 24 V	6.5	—	—	dB

PACKAGE MECHANICAL DATA

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



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.020/0,51	.030/0,76
B	.100/2,54	
C	.376/9,55	.396/10,06
D	.110/2,79	.130/3,30
E	.395/10,03	.407/10,34
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

CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
K	.395/10,03	.415/10,54
L	.004/0,10	.006/0,18
M	.052/1,32	.072/1,83
N	.118/3,00	.131/3,33
P		.230/5,84