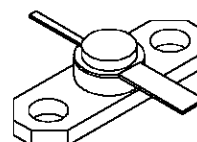


RF & MICROWAVE TRANSISTORS GENERAL PURPOSE AMPLIFIERS APPLICATIONS

PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- HIGH GAIN & COLLECTOR EFFICIENCY
- RUGGED OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 2.0 \text{ W MIN. WITH } 10.0 \text{ dB GAIN}$



.250 2LFL (S010)
hermetically sealed

ORDER CODE

MSC81402

BRANDING

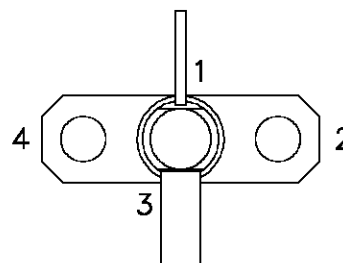
81402

DESCRIPTION

The MSC81402 is a 28 Volt, Class C, common base NPN bipolar device designed for general purpose amplifier applications in the UHF and L-Band frequency range.

High gain and collector efficiency along with extreme ruggedness are obtained using a gold metallized emitter-ballasted overlay die geometry.

PIN CONNECTION



1. Collector

2. Base

3. Emitter

4. Base

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

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 50^{\circ}\text{C}$)	6	W
I_C	Device Current*	0.23	A
V_{CC}	Collector-Supply Voltage*	30	V
T_J	Junction Temperature	200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +200	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	25	$^{\circ}\text{C/W}$
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*Applies only to rated RF amplifier operation

MSC81402

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

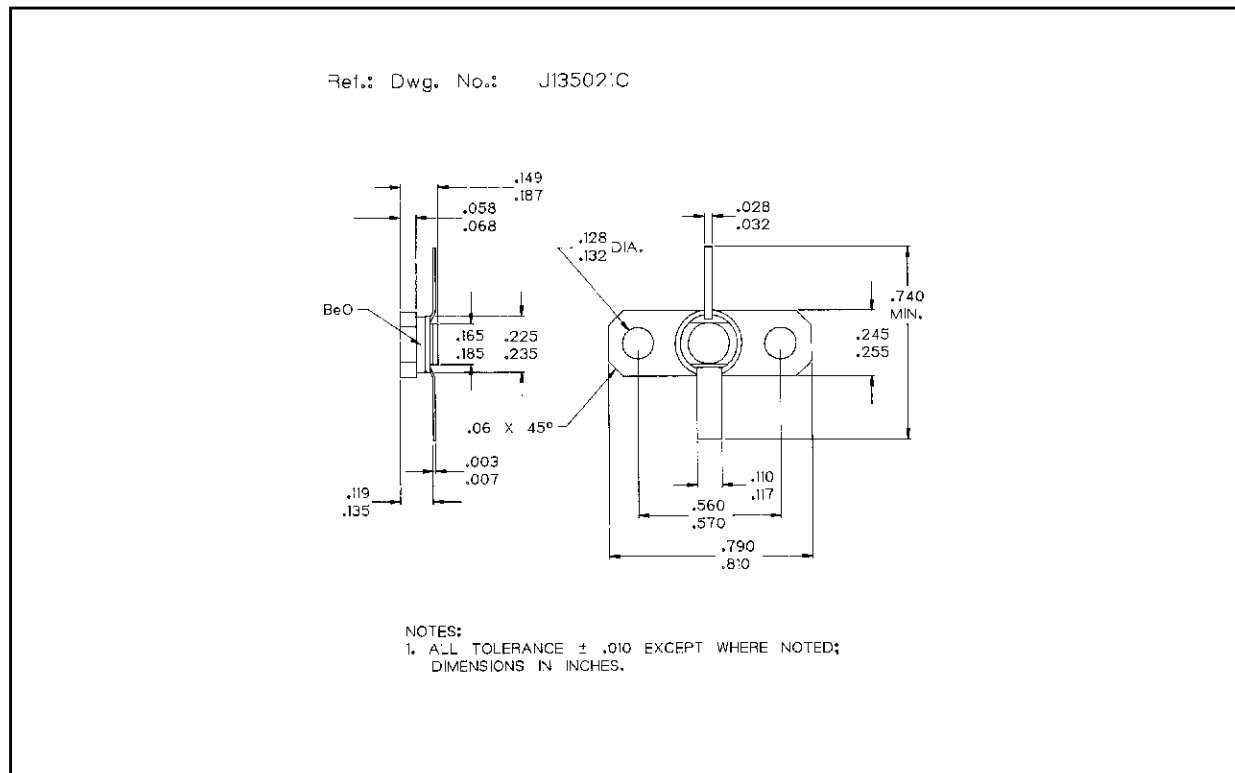
STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 1\text{mA}$ $I_{\text{E}} = 0\text{mA}$	50	—	—	V
BV_{EBO}	$I_{\text{E}} = 1\text{mA}$ $I_{\text{C}} = 0\text{mA}$	3.5	—	—	V
BV_{CER}	$I_{\text{C}} = 5\text{mA}$ $R_{\text{BE}} = 10\Omega$	50	—	—	V
I_{CBO}	$V_{\text{CB}} = 28\text{V}$	—	—	0.5	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$ $I_{\text{C}} = 100\text{mA}$	30	—	300	—

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 1.4\text{ GHz}$ $P_{\text{IN}} = 0.2\text{W}$ $V_{\text{CC}} = 28\text{V}$	2.0	—	—	W
η_{C}	$f = 1.4\text{ GHz}$ $P_{\text{IN}} = 0.2\text{W}$ $V_{\text{CC}} = 28\text{V}$	50	—	—	%
G_{P}	$f = 1.4\text{ GHz}$ $P_{\text{IN}} = 0.2\text{W}$ $V_{\text{CC}} = 28\text{V}$	10.0	—	—	dB
C_{OB}	$f = 1\text{MHz}$ $V_{\text{CB}} = 28\text{V}$	—	3.2	—	pF

PACKAGE MECHANICAL DATA



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