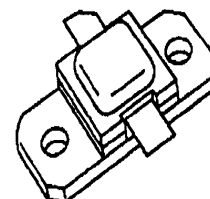


MS2604

RF & MICROWAVE TRANSISTORS S BAND RADAR APPLICATIONS

Features

- 2.7 – 3.1 GHz
- 40 VOLTS
- $P_{OUT} = 25$ WATTS
- $G_p = 6.2$ dB MINIMUM
- GOLD METALLIZATION
- INPUT/OUTPUT MATCHING
- COMMON BASE CONFIGURATION



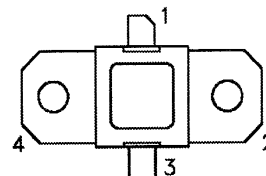
.400 x .400 2LFL M214
hermetically sealed

DESCRIPTION:

The MS2604 is a silicon NPN bipolar transistor designed for pulsed S-Band radar applications.

The MS2604 is capable of operation over a wide range of pulse widths and duty cycles. Internal impedance matching and gold metalization provide consistent broadband performance and long term reliability.

PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
V_{CC}	Collector Supply Voltage	46	V
I_C	Device Current	4	A
P_{DISS}	Power Dissipation	100	W
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

$R_{TH(J-C)}$	Junction - Case Thermal Resistance	2.0	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV _{CBO}	I _C = 15 mA I _E = 0 mA	55	---	---	V
BV _{EBO}	I _E = 2 mA I _C = 0 mA	3.5	---	---	V
BV _{CER}	I _C = 15 mA R _{BE} = 10 Ω	55	---	---	V
I _{CES}	V _{CE} = 40 V	---	---	10	mA
HFE	V _{CE} = 5.0 V I _C = 1.5 A	30	---	150	---

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P _{OUT}	f = 2700 - 3100 MHz P _{IN} = 6.0 W V _{CC} = 40V	25	---	---	W
η _c	f = 2700 - 3100 MHz P _{IN} = 6.0 W V _{CC} = 40V	30	---	---	%
G _{PE}	f = 2700 - 3100 MHz P _{IN} = 6.0 W V _{CC} = 40V	6.2	---	---	dB
Conditions	Pulse Width = 100 μsec Duty Cycle = 10%				

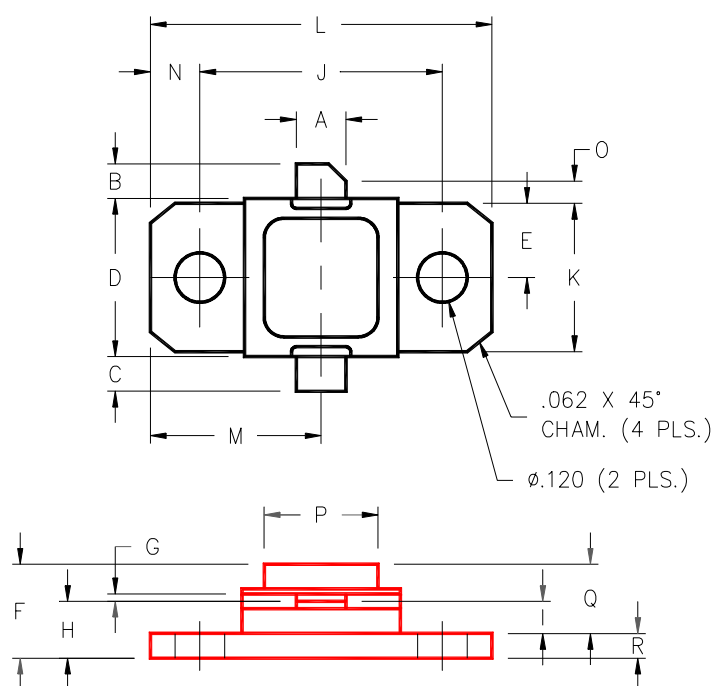
IMPEDANCE DATA

Freq	Z _{IN} (Ω)	Z _{CL} (Ω)
2.7 GHz	12.0 + j3.0	15.0 - j4.0
2.9 GHz	6.5 + j0.0	15.5 - j3.0
3.1 GHz	5.0 - j3.0	11.0 - j3.0

P_{IN} = 6 W
V_{CC} = 40 V

PACKAGE MECHANICAL DATA

PACKAGE STYLE M214



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.140/3,56		J	.650/16,51	
B	.110/2,80		K	.386/9,80	
C	.110/2,80		L	.900/22,86	
D	.395/10,03	.407/10,34	M	.450/11,43	
E	.193/4,90		N	.125/3,18	
F		.230/5,84	O	.050/1,27	
G	.003/0,08	.006/0,15	P	.405/10,29	
H	.118/3,00	.131/3,33	Q	.170/4,32	
I	.063/1,60		R	.062/1,58	