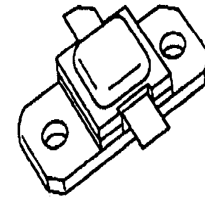


MS2609
**RF & MICROWAVE TRANSISTORS
S BAND RADAR APPLICATIONS**
Features

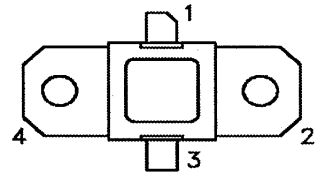
- 2.7 – 3.1 GHz
- 40 VOLTS
- GOLD METALLIZATION
- $P_{OUT} = 50$ WATTS
- $G_P = 6$ dB MINIMUM
- INPUT/OUTPUT MATCHING
- COMMON BASE CONFIGURATION

DESCRIPTION:

The MS2609 is a silicon NPN bipolar transistor specifically designed for medium pulse S-Band radar applications. This device is capable of operation over a wide range of pulse widths, duty cycles and temperatures. Gold metalized, intredigitated die geometry provides superior ruggedness into a 3:1 VSWR at + 1 dB overdrive. Internal impedance matching and computerized wirebond insure superior product consistency.



.400 x .400 2LFL M214
hermetically sealed

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
P_{DISS}	Power Dissipation	167	W
I_C	Device Current	8	A
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

$R_{TH(J-C)}$	Junction - Case Thermal Resistance*	1.2	°C/W
---------------	-------------------------------------	-----	------

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 25 mA	I _E = 0 mA	55	---	---	V
BV _{EBO}	I _E = 5 mA	I _C = 0 mA	3.5	---	---	V
BV _{CER}	I _C = 25 mA	R _{BE} = 10Ω	55	---	---	V
I _{CES}	V _{CE} = 40 V		---	---	20	mA
HFE	V _{CE} = 5.0 V	I _C = 3 A	30	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 2700- 3100 MHz	P _{IN} = 12.5 W	V _{CC} = 40V	50	---	---	W
η _c	f = 2700- 3100 MHz	P _{IN} = 12.5 W	V _{CC} = 40V	30	---	---	%
G _{PE}	f = 2700- 3100 MHz	P _{IN} = 12.5 W	V _{CC} = 40V	6.0	---	---	dB
Conditions	Pulse width = 100 μsec Duty Cycle = 10%						

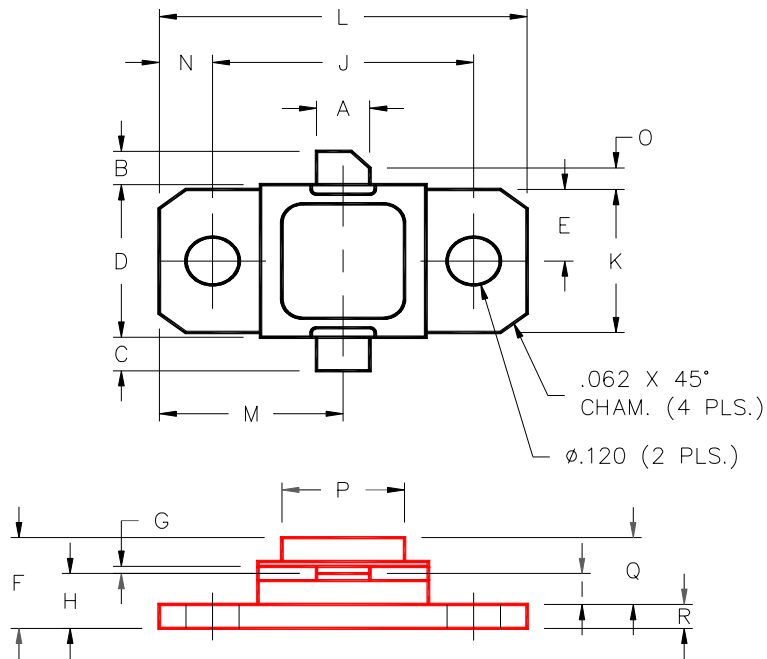
IMPEDANCE DATA

Freq	Z _{IN} (Ω)	Z _{CL} (Ω)
2.7 GHz	7.4 + j5.4	7.1 – j8.6
2.9 GHz	7.8 + j3.0	5.4 – j7.4
3.1 GHz	8.0 – j2.0	4.6 – j2.6

P_{IN} = 12.5 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	