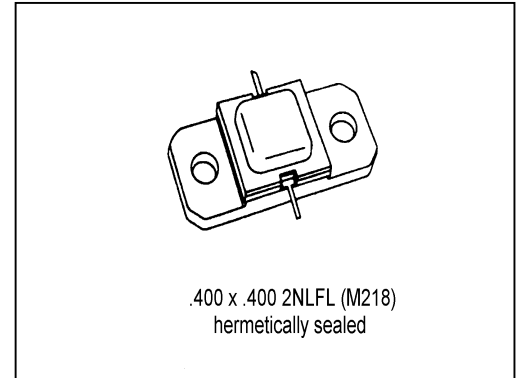


MS2603

RF & MICROWAVE TRANSISTORS S BAND RADAR APPLICATIONS

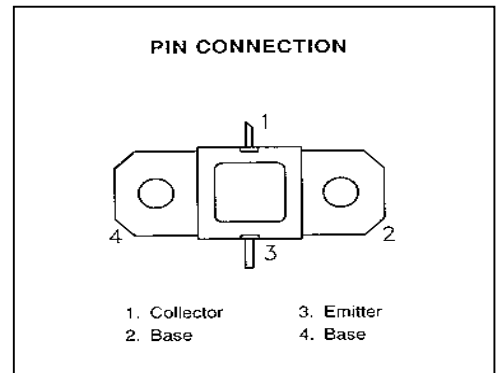
Features

- 2.7 – 3.1 GHz
- 30 VOLTS
- $P_{OUT} = 5.5$ WATTS
- $G_P = 5.6$ dB MINIMUM
- GOLD METALLIZATION
- INPUT/OUTPUT MATCHING
- COMMON BASE CONFIGURATION



DESCRIPTION:

The MS2603 is a silicon NPN bipolar transistor designed for pulsed S-Band radar applications. The MS2603 is capable of operation over a wide range of pulse widths and duty cycles. Internal impedance matching and gold metallization provide consistent broadband performance and long term reliability.



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

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation	40	W
I_C	Device Current	1.8	A
V_{CC}	Collector Supply Voltage	34	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	3.75	°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 = 5 mA	I _E = 0 mA	45	---	---	V
BV _{EBO}	I _E = 1 mA	I _C = 0 mA	3.5	---	---	V
BV _{CER}	I _C = 5 mA	R _{BE} = 10 Ω	45	---	---	V
I _{CES}	V _{CE} = 30 V		---	---	4	mA
HFE	V _{CE} = 5.0 V	I _C = 500mA	10	---	150	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 2.7 - 3.1 GHz	P _{IN} = 1.5 W	V _{CC} = 30V	5.5	---	---	W
η _c	f = 2.7 - 3.1 GHz	P _{IN} = 1.5 W	V _{CC} = 30V	27	---	---	%
G _{PE}	f = 2.7 - 3.1 GHz	P _{IN} = 1.5 W	V _{CC} = 30V	5.6	---	---	dB
Conditions	Pulse Width = 100 μsec Duty Cycle = 10%						

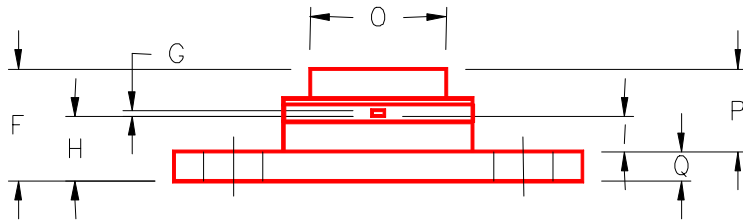
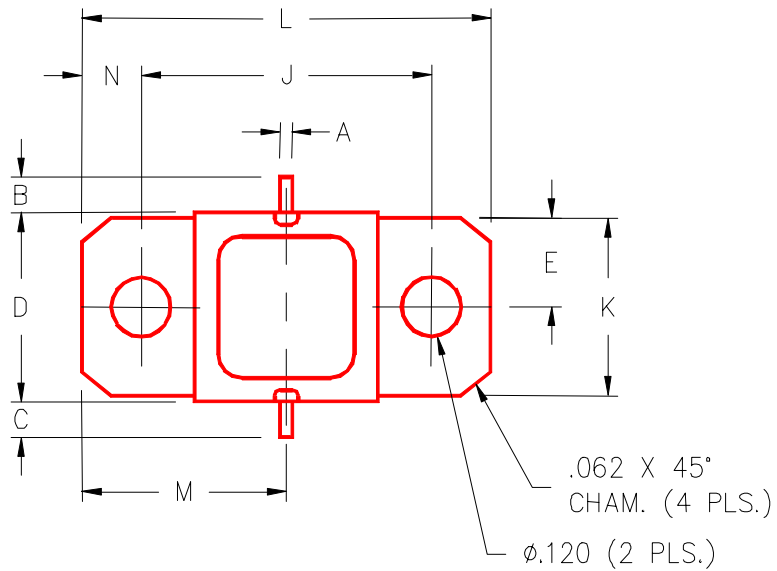
IMPEDANCE DATA

Freq	Z _{IN} (Ω)	Z _{CL} (Ω)
2.7 GHz	9.0 + j22.0	48.0 + j11.5
2.9 GHz	9.0 + j23.0	43.0 + j9.0
3.1 GHz	12.5 + j25.0	30.0 + j3.0

P_{IN} = 1.5 W
V_{CC} = 40 V

PACKAGE MECHANICAL DATA

PACKAGE STYLE M218



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.025/0,64		J	.650/16,51	
B	.100/2,54		K	.386/9,80	
C	.100/2,54		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	.405/10,29	
G	.004/0,10	.007/0,18	P		.170/4,32
H	.118/3,00	.131/3,33	Q	.062/1,58	
I	.063/1,60				