ADVANCED POWER TECHNOLOGY RF®

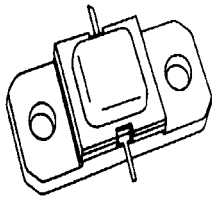
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MS2554

RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS

Features

- **1025 – 1150 MHz**
- **50 VOLTS**
- **INPUT/OUTPUT MATCHING**
- **P_{OUT} = 250 WATTS**
- **G_P = 6.2 dB MINIMUM**
- **COMMON BASE CONFIGURATION**

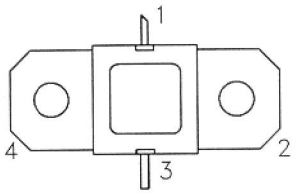


.400 x .400 2NLFL (M218)
hermetically sealed

DESCRIPTION:

The MS2554 is a NPN bipolar transistor specifically designed for high peak pulse power applications such as DME/TACAN. This device is capable of withstanding a minimum 20:1 load VSWR at any phase angle under full rated conditions. Internal impedance matching provides consistent broadband performance.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS **(Tcase = 25°C)**

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation	600	W
I_C	Device Current	17.8	A
V_{CC}	Collector-Supply Voltage*	55	V
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	0.20	°C/W

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			
			Min.	Typ.	Max.	Unit
BV_{CBO}	I_C = 15 mA	I_E = 0 mA	65	---	---	V
BV_{EBO}	I_E = 1 mA	I_C = 0 mA	3.5	---	---	V
BV_{CER}	I_C = 50 mA	R_{BE} = 10 Ω	65	---	---	V
I_{CES}	V_{CE} = 50 V		---	---	25	mA
HFE	V_{CE} = 5 V	I_C = 1 A	15	---	120	---

DYNAMIC

Symbol	Test Conditions			Value			
				Min.	Typ.	Max.	Unit
P_{OUT}	f = 1025 - 1150 MHz	P_{IN} = 90 W	V_{CC} = 50 V	250	---	---	W
η_C	f = 1025 - 1150 MHz	P_{IN} = 90 W	V_{CC} = 50 V	40	---	---	%
G_P	f = 1025 - 1150 MHz	P_{IN} = 90 W	V_{CC} = 50 V	6.2	---	---	dB
Condition	Pulse Width = 10uS	Duty Cycle = 1%					

IMPEDANCE DATA

FREQ	Z_{IN} (Ω)	Z_{CL} (Ω)
1025 MHz	4.2 + j6.7	2.0 - j7.5
1090 MHz	4.0 + j3.5	2.5 - j7.5
1150 MHz	2.3 + j2.3	2.5 - j8.5

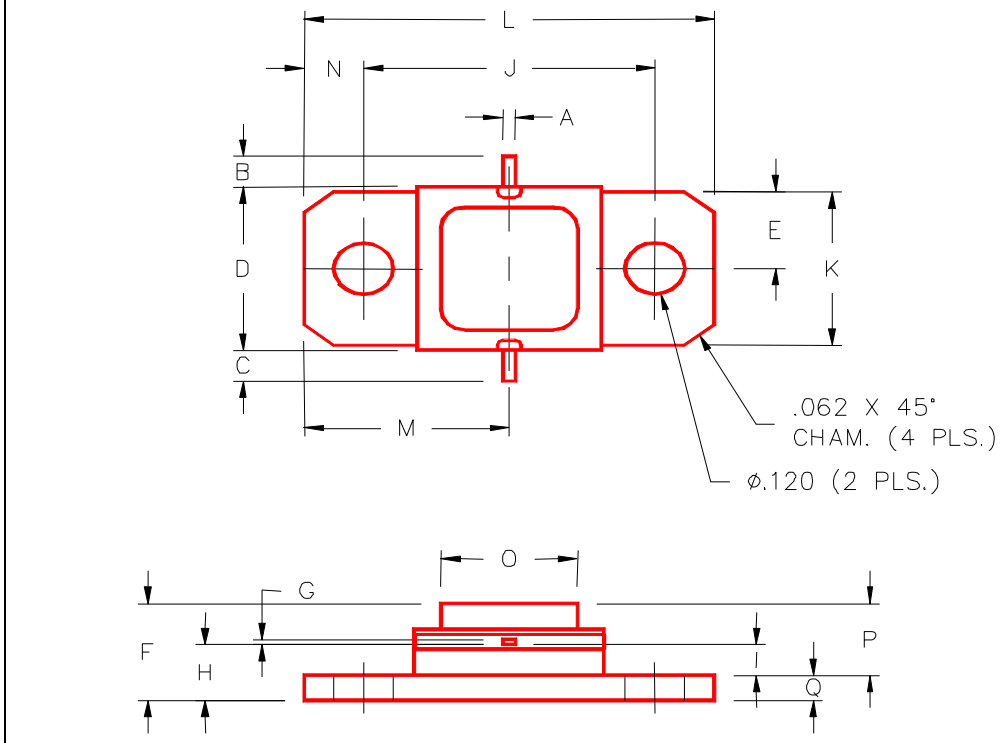
V_{CC} = 50V
P_{IN} = 60W

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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				