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MSC1450M RF AND MICROWAVE TRANSISTORS AVIONICS APPLICATIONS Features **REFRACTORY/GOLD METALLIZATION** LOW THERMAL RESISTANCE **RUGGEDIZED VSWR 25:1** .400 x .500 2LFL (M216) **INTERNAL INPUT / OUTPUT MATCHING** hermetically sealed **METAL/CERAMIC HERMETIC PACKAGE** POUT = 450 W MINIMUM 7 dB gain **PIN CONNECTION**

DESCRIPTION:

The MSC1450M is a high-power pulsed transistor specifically designed for IFF avionics applications.

This device is capable of withstanding a minimum 25:1 load mismatch at any phase angle under full rated conditions.

The MSC1450M is housed in the unique BIGPAC[™] package with internal input/output matching structures.

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

ABSOLUTEMAXIMUM RATINGS (Tcase = 25° C)

Symbol	Parameter	Value	Unit
Vcc	Collector-Supply Voltage	55	V
I _C	Device Current	28	Α
PDISS	Power Dissipation	910	W
TJ	Junction Temperature	250	°C
T _{STG}	Storage Temperature	– 65 to + 200	°C

Thermal Da	ta		
R _{TH(j-c)}	Junction-Case Thermal Resistance	0.15	°C/W

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MSC1450M

ELECTRICAL SPECIFICATIONS (Tcase = 25° C)

STATIC

Symbol	Toot Conditions		Value			
Symbol		Test conditions	Min.	Тур.	Max.	Units
BV _{CBO}	l _c = 15 mA	l _E = 0 mA	65			V
BVEBO	I _E = 1 mA	l _c = 0 mA	3.5			V
BV _{CER}	l _c = 50 mA	R _{BE} = 10Ω	65			V
ICES	V _{CE} = 50V				35	mA
h _{FE}	$V_{CE} = 5 V$	I _c = 1 A	15		120	

DYNAMIC

Symphol	Test Conditions			Value			Unite
Symbol		Test Conditions		Min.	Тур.	Max.	Units
Pout	f = 1090 MHz	P _{IN} = 90 W	$V_{cc} = 50 V$	450	500		w
Çc	f = 1090 MHz	P _{IN} = 90 W	$V_{\rm CC}$ = 50 V	40			%
G _P	f = 1090 MHz	P _{IN} = 90 W	$V_{cc} = 50 V$	7			dB

Pulse width = 10µSec Duty Cycle = 1% Note:



MSC1450M

TEST CIRCUIT

Ref.: Dwg. No. C125363



All dimensions are in inches.



MSC1450M

PACKAGE MECHANICAL DATA

PACKAGE STYLE M216





	MINIMUM	MAXIMUM		MINIMUM	MAXIMUM	
	INCHES/MM	INCHES/MM		INCHES/MM	INCHES/MM	
А	.140,	/3,56	J	.700/17,78		
В	.1107	/2,80	Κ	.386/9,80		
С	.1107	/2,80	L	.900/22.86		
D	.395/10,03	.407/10,34	М	.120/3,05		
E	.193,	/4,90	Ν	.500/12,70		
F		.230/5,84	0	.050/1,27		
G	.003/0,08	.006/0,15	Ρ		.170/4,32	
Н	.118/3,00	.131/3,33	Q	.062/1,58		
	.063	/1,60				