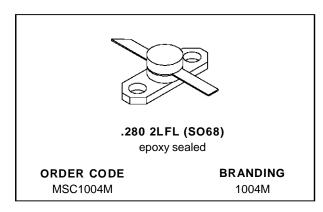


MSC1004M

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

- 1025 1150 MHz
- RUGGEDIZED VSWR ∞:1
- INTERNAL INPUT MATCHING
- LOW THERMAL RESISTANCE
- Pout = 4.0 W MIN. WITH 9.0 dB GAIN

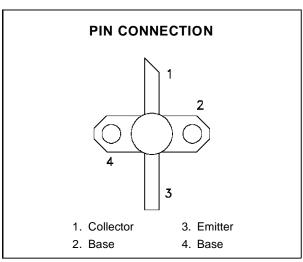


DESCRIPTION

The MSC1004M is a low-level Class C pulsed transistor specifically designed for DME/IFF driver or output applications.

These devices are capable of withstanding a ∞:1 load VSWR at any phase angle under full rated conditions. Low RF thermal resistance and automatic bonding techniques ensure high reliability and product consistency.

The MSC1004M is housed in the IMPAC $^{\text{\tiny TM}}$ package with internal input matching.



ABSOLUTE MAXIMUM RATINGS $(T_{case} = 25^{\circ}C)$

Symbol	Parameter	Value	Unit	
P _{DISS}	Power Dissipation* (T _C ≤ 100°C)	18	W	
Ic	Device Current*	650	mA	
Vcc	Collector-Supply Voltage*	32	V	
TJ	Junction Temperature	200	°C	
Tstg	Storage Temperature	- 65 to +150	°C	

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance*	5	°C/W
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^{*}Applies only to rated RF amplifier operation

June 12, 1995

ELECTRICAL SPECIFICATIONS $(T_{case} = 25^{\circ}C)$

STATIC

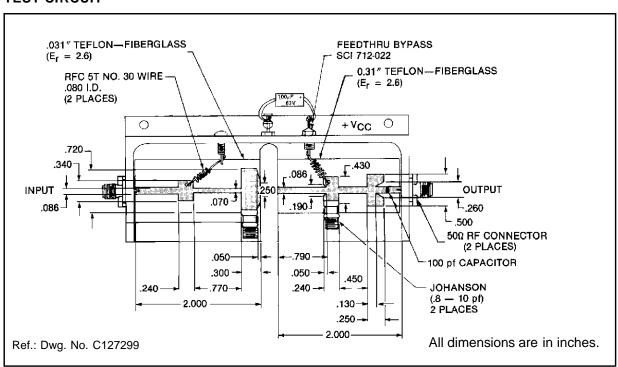
Symbol	Test Conditions	Value			Unit
		Min.	Тур.	Max.	Unit
ВУсво	$I_C = 1 \text{ mA}$ $I_E = 0 \text{ mA}$	45	_		V
BV _{CER}	$I_C = 5 \text{ mA}$ $R_{BE} = 10 \Omega$	45	_		V
BV _{EBO}	$I_E = 1 \text{ mA}$ $I_C = 0 \text{mA}$	3.5	_	_	V
ICES	V _{CE} = 28 V		_	1.0	mA
h _{FE}	$V_{CE} = 5 \text{ V}$ $I_{C} = 200 \text{ mA}$	30	_	300	_

DYNAMIC

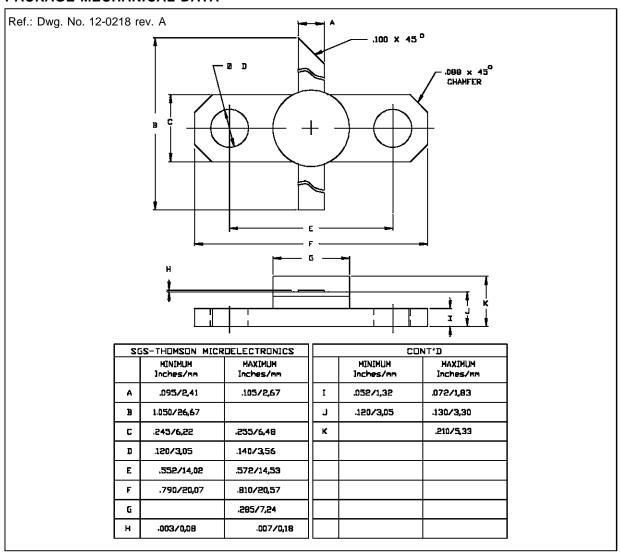
Symbol	Test Conditions		Value		Unit		
Symbol			Min.	Тур.	Max.	Unit	
Pout	f = 1025 - 1150 MHz	$P_{IN}=500\ mW$	$V_{CC}=28\ V$	4.0	_	_	W
ης	f = 1025 - 1150 MHz	$P_{IN}=500\;mW$	$V_{CC} = 28 \text{ V}$	35	_	_	%
G _P	f = 1025 - 1150 MHz	P _{IN} = 500 mW	Vcc = 28 V	9.0		_	dB

Note: Pulse Width = $10\mu Sec$ Duty Cycle = 1%

TEST CIRCUIT



PACKAGE MECHANICAL DATA



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