



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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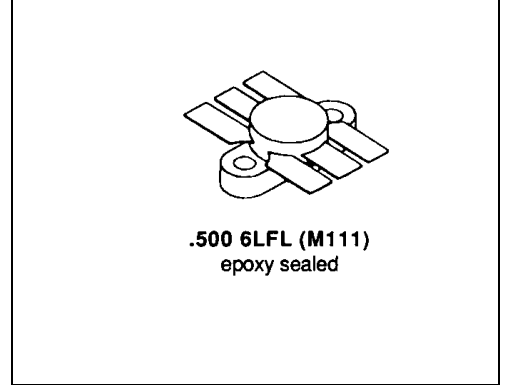


MS1003

RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

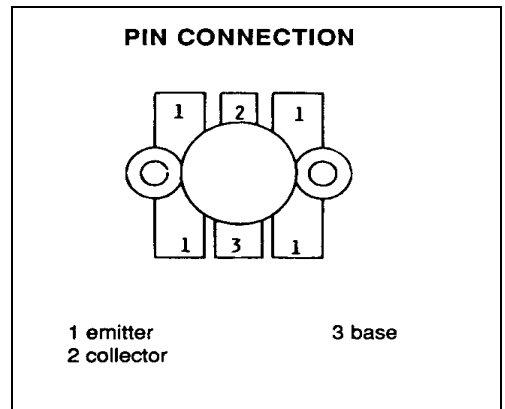
Features

- 175 MHz
- 12.5 VOLTS
- $P_{OUT} = 100$ WATTS
- $G_P = 6.0$ dB MINIMUM
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1003 is a 12.5 V Class C epitaxial silicon NPN transistor designed primarily for VHF, FM communications. Diffused emitter resistors provide high VSWR capability under rated operating conditions. Internal impedance matching ensures optimum power gain and efficiency over the 136-175 MHz band.



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{CES}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	20	A
P_{DISS}	Power Dissipation	270	W
T_J	Junction Temperature	+200	$^{\circ}C$
T_{STG}	Storage Temperature	-65 to +150	$^{\circ}C$

Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance	0.65	$^{\circ}C/W$
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ELECTRICAL SPECIFICATIONS (T_{case} = 25 °C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 50mA	I_E = 0mA	36	---	---	V
BV_{CES}	I_C = 100mA	V_{BE} = 0V	36	---	---	V
BV_{CEO}	I_C = 100mA	I_B = 0mA	18	---	---	V
BV_{EBO}	I_E = 10mA	I_C = 0mA	4.0	---	---	V
I_{CES}	V_{CE} = 15V	I_E = 0mA	---	---	15	mA
h_{FE}	V_{CE} = 5V	I_C = 5A	10	---	100	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 175 MHz	P_{IN} = 25 W	V_{CC} = 12.5V	100	---	---	W
G_p	f = 175 MHz	P_{IN} = 25 W	V_{CC} = 12.5V	6.0	---	---	dB
C_{OB}	f = 1 MHz	V_{CB} = 12.5 V		---	---	390	pF

IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
175 MHz	1.5 - j0.9	0.5 - j1.0

MS1003

PACKAGE MECHANICAL DATA

