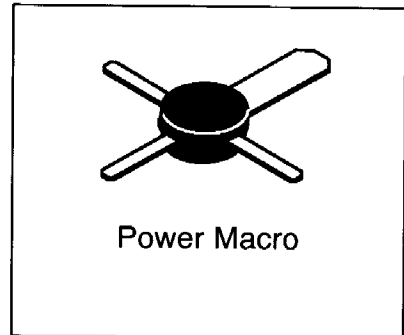


MRF555

**RF & MICROWAVE DISCRETE
LOW POWER TRANSISTORS**

Features

- Specified @ 12.5 V, 470 MHz Characteristics
- Output Power = 1.5 W
- Minimum Gain = 11 dB
- Efficiency 60% (Typ)
- Cost Effective PowerMacro Package
- Electroless Tin Plated Leads for Improved Solderability



DESCRIPTION: Designed primarily for wideband large signal stages in the UHF frequency range.

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

Symbol	Parameter	Value	Unit
V _{CEO}	Collector-Emitter Voltage	16	Vdc
V _{CB0}	Collector-Base Voltage	30	Vdc
V _{EB0}	Emitter-Base Voltage	3.0	Vdc
I _C	Collector Current	500	mA

Thermal Data

P _D	Total Device Dissipation @ TC = 75°C Derate above 75°C	3.0 40	Watts mW/°C
----------------	---	-----------	----------------

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CEO}	Collector-Emitter Breakdown Voltage ($I_C = 5 \text{ mAdc}$, $I_B = 0$)	16	-	-	Vdc
BV_{CES}	Collector-Emitter Sustaining Voltage ($I_C = 5.0 \text{ mAdc}$, $I_B = 0$)	30	-	-	Vdc
BV_{EBO}	Emitter-Base Breakdown Voltage ($I_E = 0.1 \text{ mAdc}$, $I_C = 0$)	3.0	-	-	Vdc
I_{CES}	Collector Cutoff Current ($V_{CE} = 15 \text{ Vdc}$, $V_{BE} = 0 \text{ Vdc}$)	-	-	5	mA
HFE	DC Current Gain ($I_C = 100 \text{ mA}$, $V_{CE} = 5.0 \text{ Vdc}$) Both	50	-	200	-

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
C_{OB}	Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 1.0 \text{ MHz}$)	-	---	5.5	pF

FUNCTIONAL

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
G_{PE}	Power Gain	Test Circuit-Figure 1 $P_{out} = 1.5 \text{ W}$, $V_{CE} = 12.5 \text{ Vdc}$ $f = 470 \text{ MHz}$	11	12.5	-	dB
η	Collector Efficiency	Test Circuit-Figure 1 $P_{out} = 1.5 \text{ W}$, $V_{CE} = 12.5 \text{ Vdc}$ $f = 175 \text{ MHz}$	50	60	-	%
ψ	Load Mismatch $VSWR \geq 10:1$ All Phase Angles	Test Circuit-Figure 1 $P_{out} = 1.5 \text{ W}$, $V_{CE} = 12.5 \text{ Vdc}$ $f = 175 \text{ MHz}$	No Degradation in Output Power			-