New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

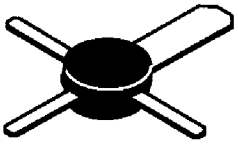
TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

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



Power Macro

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

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	16	Vdc
V_{CBO}	Collector-Base Voltage	30	Vdc
V_{EBO}	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

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

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

DYNAMIC

Symbol	Test Conditions	Value			
		Min.	Typ.	Max.	Unit
C_{OB}	Output Capacitance (VCB = 10 Vdc, IE = 0, f = 1.0 MHz)	-	---	5.5	pF

FUNCTIONAL

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