



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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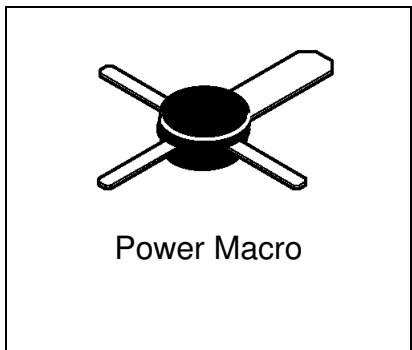


MRF555

**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 _{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
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV _{CEO}	Collector-Emitter Breakdown Voltage (I _C = 5 mA _{dc} , I _B = 0)	16	-	-	Vdc
BV _{CES}	Collector-Emitter Sustaining Voltage (I _C = 5.0 mA _{dc} , I _B = 0)	30	-	-	Vdc
BV _{EBO}	Emitter-Base Breakdown Voltage (I _E = 0.1 mA _{dc} , 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	-

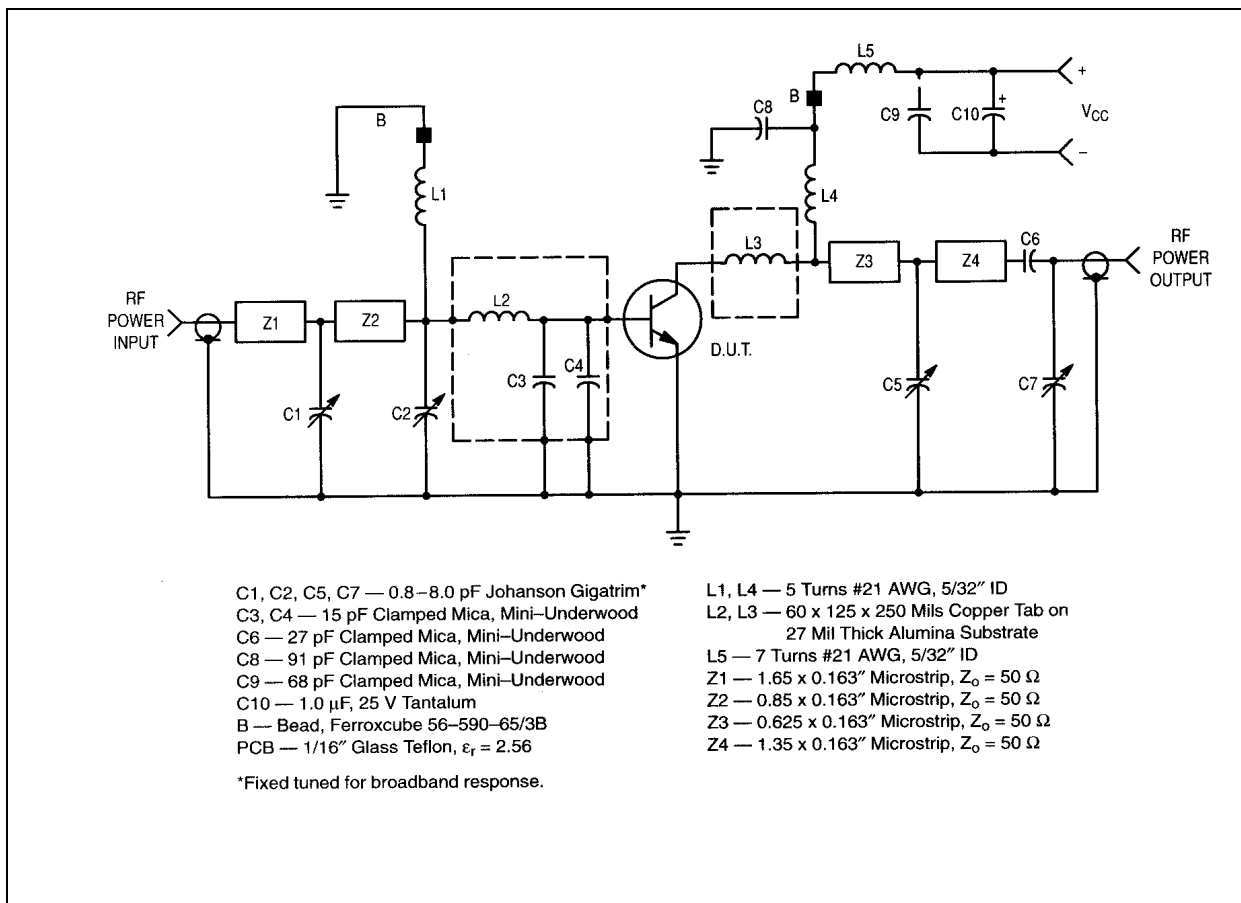
DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
C _{OB}	Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 1.0 MHz)	-	---	5.5	pF

MRF555

FUNCTIONAL

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
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 \geq 10:1 All Phase Angles	Test Circuit-Figure 1 Pout = 1.5 W, VCE =12.5Vdc f = 175 MHz	No Degradation in Output Power			-



MRF555

RF Low Power PA, LNA, and General Purpose Discrete Selector Guide

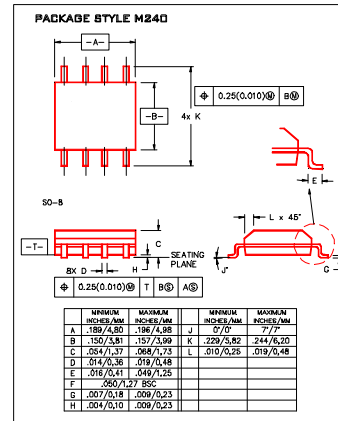
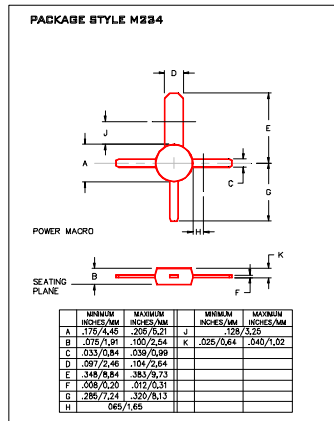
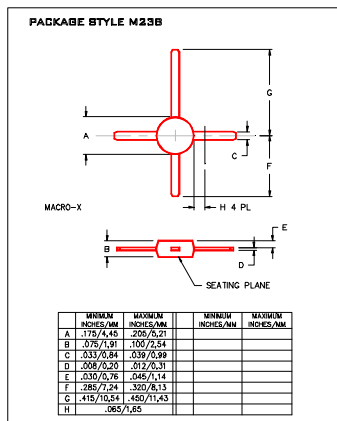
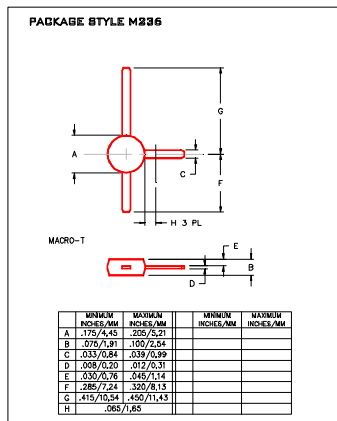
Package	Device	Type	GPE Freq (MHz)	Pout (watts)	GPE (dB)	Efficiency (%)	GPE VCC	IC max (mA)
SO-8	MRF4427, R2	NPN	175	0.15	18	60	12	20
TO-39	2N4427	NPN	175	1	10	50	12	20
POWER MACRO	MRF553	NPN	175	1.5	11.5	60	12.5	16
POWER MACRO	MRF553T	NPN	175	1.5	11.5	50	12.5	16
TO-39	MRF607	NPN	175	1.75	11.5	50	12.5	16
TO-39	2N6255	NPN	175	3	7.8	50	12.5	18
TO-72	2N5179	NPN	200		20	6	12	50
MACRO X	MRF559	NPN	512	0.5	10	65	7.5	16
MACRO X	MRF559	NPN	512	0.5	13	60	12.5	16
TO-39	2N3866A	NPN	400	1	10	45	28	30
SO-8	MRF3866, R1, R2	NPN	400	1	10	45	28	30
POWER MACRO	MRF555	NPN	470	1.5	11	50	12.5	16
POWER MACRO	MRF555T	NPN	470	1.5	11	50	12.5	16
MACRO X	MRF559	NPN	870	0.5	6.5	70	7.5	16
MACRO X	MRF559	NPN	870	0.5	9.5	65	12.5	16
SO-8	MRF8372, R1, R2	NPN	870	0.75	8	55	12.5	16
POWER MACRO	MRF557	NPN	870	1.5	8	55	12.5	16
POWER MACRO	MRF557T	NPN	870	1.5	8	55	12.5	16

Package	Device	Type	Freq (MHz)	NF (dB)	NF IC (mA)	NF VCE	GN (dB)	Gu Max (dB)	Ftau (MHz)	Ccb(pF)	BVCEO	IC max (mA)
TO-39	2N5109	NPN	200	3	10	15		12	1200	3.5	20	400
TO-39	MRF5943C	NPN	200	3.4	30	15		11.4	1000		30	400
SO-8	MRF5943, R1, R2	NPN	200	3.4	30	15		15	1300		30	400
TO-72	2N5179	NPN	200	4.5	1.5	6		17	900	1	12	50
TO-72	2N2857	NPN	300	5.5	50	6		11	1600	1	15	40
TO-39	MRF517	NPN	300	7.5	50	15		5.5	4600	3	25	150
TO-72	MRF904	NPN	450	1.5	5	6		11	4000	1	15	30
TO-72	2N6304	NPN	450	5	2	5		14	1400	1	15	50
MACRO T	BFR91	NPN	500	1.9	2	5	11	16.5	5000	1	12	35
MACRO T	BFR96	NPN	500	2	10	10		14.5	500	2.6	15	100
SO-8	MRF5812, R1, R2	NPN	500	2	50	10	15.5	17.8	5000		15	200
MACRO X	MRF581A	NPN	500	2	50	10	14	15	5000		15	200
Macro	BFR90	NPN	500	2.4	2	10	15	18	5000	1	15	30
TO-72	BFY90	NPN	500	2.5	2	5		20	1300		15	50
TO-72	MRF914	NPN	500	2.5	5	10		15	4500		12	40
MACRO X	MRF581	NPN	500	2.5	50	10	15	17.8	5000		16	200
TO-39	MRF586	NPN	500	3	90	15	11	14.5	4500	2.2	17	200
MACRO X	MRF951	NPN	1000	1.3	5	6	14	17	8000	0.45	10	100
MACRO X	MRF571	NPN	1000	1.5	10	6	10		8000	1	10	70
MACRO T	BFR91	NPN	1000	2.5	2	5	8	11	5000	1	12	35
MACRO T	BFR90	NPN	1000	3	2	10	10	12.5	5000	1	15	30
TO-39	MRF545	PNP						14	1400	2	70	400
TO-39	MRF544	NPN						13.5	1500		70	400

RF (Low Power PA / General Purpose) Selection Guide

RF (LNA / General Purpose) Selection Guide

Low Cost RF Plastic Package Options



MS^C Macro T

Macro X

Power Macro

SO-8

PACKAGE MECHANICAL DATA

