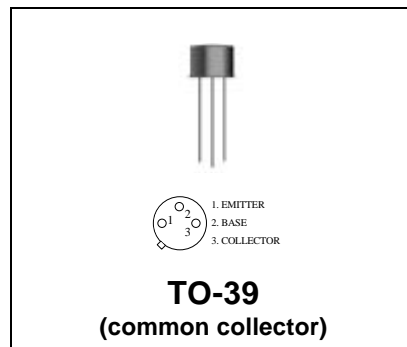


**MRF607**

**RF & MICROWAVE DISCRETE  
 LOW POWER TRANSISTORS**

Features

- 12.5V Silicon NPN, To-39 packaged VHF & UHF Transistor
- 1.75 Watt Minimum Power Output @ 12.5V, 175 MHz
- 11.5 minimum Gain @ 12.5V, 175 MHz
- 50% Efficiency @ 12.5V, 175 MHz



DESCRIPTION:

Silicon NPN transistor, designed for VHF and UHF equipment. Applications include amplifier; pre-driver, driver, and output stages.

ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	16	Vdc
V <sub>CBO</sub>	Collector-Base Voltage	36	Vdc
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	Vdc
I <sub>C</sub>	Collector Current	330	mA

Thermal Data

P <sub>D</sub>	Total Device Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	3.5 28	Watts mW/ °C
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC  
 (off)

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BVCEs	Collector-Emitter Breakdown Voltage (IC = 25 mAdc, VBE = 0 Vdc)	36	-	-	Vdc
BVCEO	Collector-Emitter Sustaining Voltage (IC=25 mAdc, IB=0)	16	-	-	Vdc
BVEBO	Emitter-Base Breakdown Voltage (IE = .5 mA, IC = 0)	4.0	-	-	Vdc
ICEO	Collector Cutoff Current (VCE = 10 Vdc, IB = 0)	-	-	.3	mA

(on)

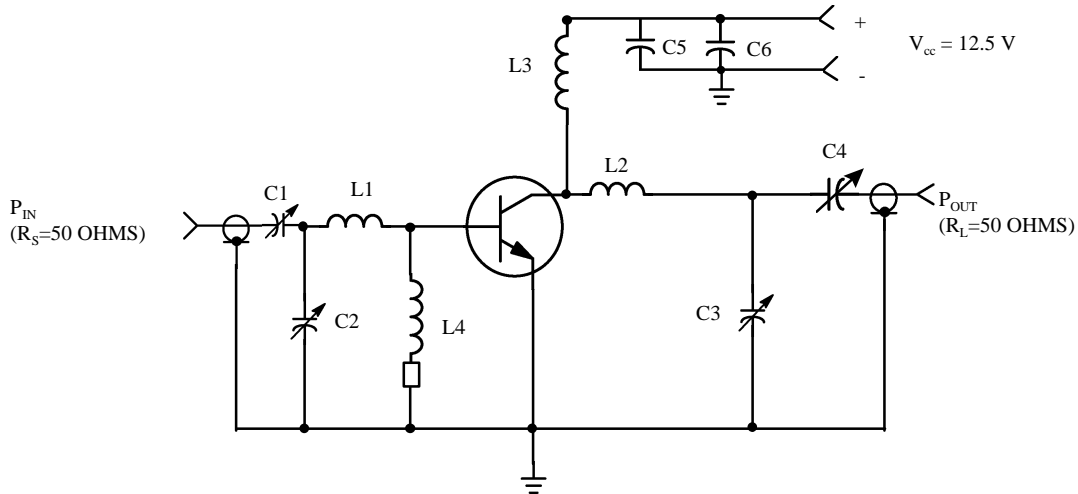
HFE	DC Current Gain (IC = 50 mAdc, VCE = 5.0 Vdc)	20	-	150	-
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DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
COB	Output Capacitance (VCB = 12 Vdc, IE = 0, f = 1.0 MHz)	-	-	15	pF

FUNCTIONAL

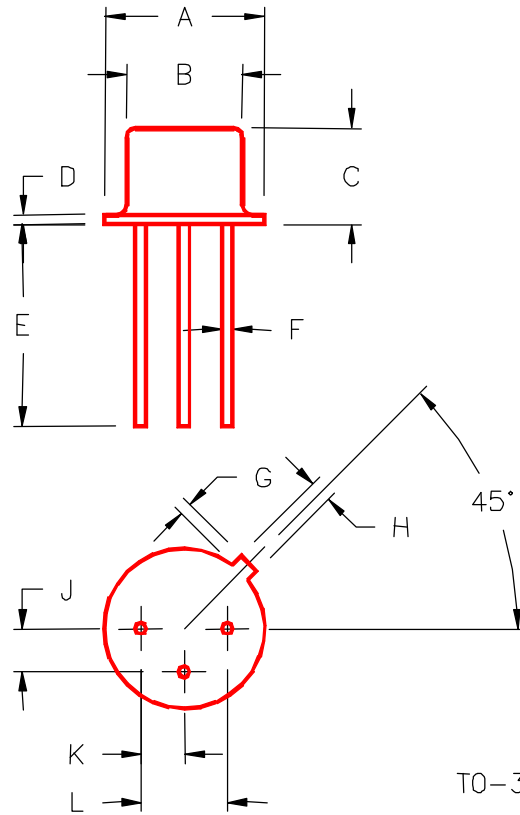
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
G <sub>PE</sub>	Power Gain	Test Circuit-Figure 1 Pout = 1.75W, VCE = 12.5Vdc f = 175 MHz	11.5	-	-	dB
η <sub>c</sub>	Collector Efficiency	Test Circuit-Figure 1 Pout = 1.75W, VCE = 12.5Vdc f = 175 MHz	50	-	-	%



**Figure 1 - 175 MHz RF AMPLIFIER CIRCUIT FOR  $G_{PE}$ ,  
 AND EFFICIENCY SPECIFICATIONS.**

C1	2.7-15 pF, ARCO 461	L1	1 TURN #20 AWG, 3/8" I.D.
C2	9.0-180 pF, ARCO 463	L2	3 TURNS #20 AWG, 3/8" I.D.
C3, C4	5.0-80 pF ARCO 462	L3	0.22 $\mu$ H MOLDED CHOKE
C5	1000 pF UNELCO	L4	0.15 $\mu$ H MOLDED CHOKE WITH TANTALUM FERROXCUBE 56-590-65-3B BEAD ON GROUND LEAD
C6	5 $\mu$ F, 25 Vdc,		

PACKAGE STYLE M246



T0-39

	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.350/8,89	.370/9,40	J	.095/2,41	.105/2,67
B	.315/8,00	.335/8,51	K	.095/2,41	.105/2,67
C	.240/6,10	.260/6,60	L	.190/4,83	.210/5,33
D	.015/0,38	.045/1,14			
E	.500/12,70				
F	.016/0,41	.019/0,48			
G	.029/0,74	.040/1,02			
H	.028/0,71	.034/0,86			