RF Products
Microsemi
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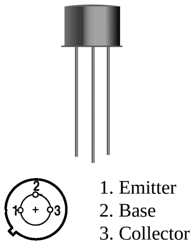
2N6255

RF & MICROWAVE DISCRETE LOW POWER TRANSISTORS

Features

- Silicon NPN, To-39 packaged VHF Transistor
- 3.0 Watt Power Output @ 175 MHz
- Power Gain, G_{PE} = 7.8 dB
- Efficiency = 50%



TO-39

DESCRIPTION:

Silicon NPN transistor, designed for 12.5 volt VHF equipment. Applications include amplifier; pre-driver, driver, and output stages. Also suitable for oscillator and frequency-multiplier functions.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	**Parameter**	**Value**	**Unit**
V_{CEO}	Collector-Emitter	18	Vdc
V_{CBO}	Collector-Base Voltage	36	Vdc
V_{EBO}	Emitter-Base Voltage	4.0	Vdc
I_C	Collector Current	1	A

Thermal Data

P_D	Total Device Dissipation @ T_A = 25ºC Derate above 25ºC	5.0 28.5	Watts mW/ º**C**

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

(off)

Symbol	Test Conditions	Value			
		Min.	Typ.	Max.	Unit
BVCES	Collector-Emitter Breakdown Voltage (IC = 5.0 mAdc, VBE =0Vdc)	36	-	-	Vdc
BVCEO	Collector-Emitter Breakdown Voltage (IC=10 mAdc, IB=0)	18	-	-	Vdc
BVEBO	Emitter-Base Breakdown Voltage (IE = 1.0 mAdc, IC = 0)	4.0	-		Vdc
ICES	Collector Cutoff Current (VCE = 15 Vdc, VBE = 0 Vdc)	-	-	5.0	mA
ICBO	Emitter Cutoff Current (VCB = 15 Vdc, IE = 0)	-	-	.25	mA

(on)

HFE	DC Current Gain (IC = 250 mAdc, VCE = 5.0 Vdc)	5.0	-	-	-

DYNAMIC

Symbol	Test Conditions	Value			
COB	Output Capacitance (VCB = 12.5Vdc, f = 1.0 MHz	-	15	20	pF

FUNCTIONAL

Symbol	Test Conditions		Value			
			Min.	Typ.	Max.	Unit
G_{PE}	Power Gain	Test Circuit-Figure 1 Pout = 3.0 W, VCC = 12.5Vdc f = 175 MHz	7.8	-	-	dB
η_C	Collector Efficiency	Test Circuit-Figure 1 Pout = 3.0 W, VCC = 12.5Vdc f = 175 MHz	50	-	-	%

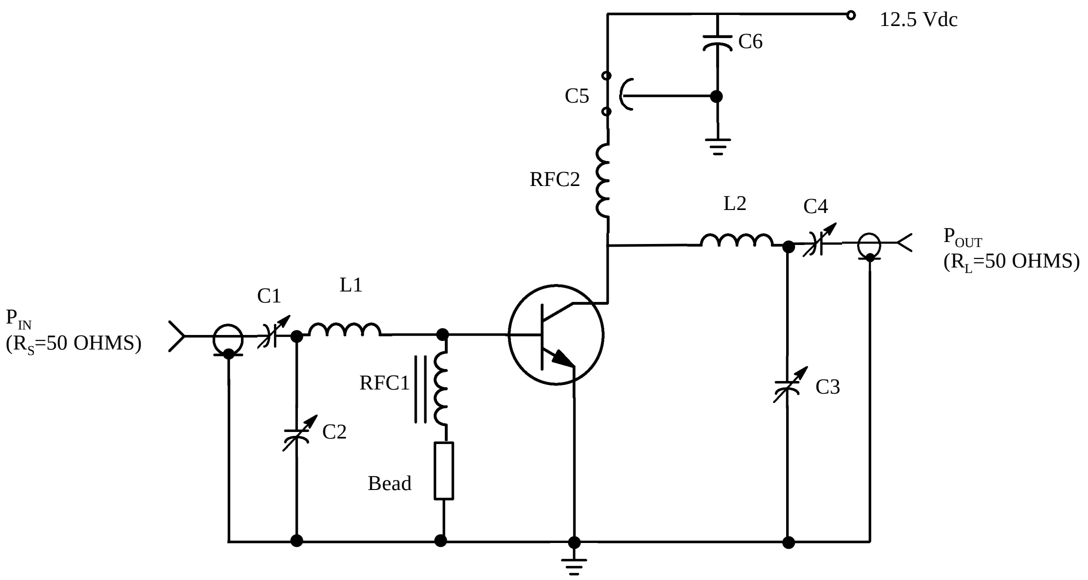

Figure 1 - 175 MHz RF AMPLIFIER CIRCUIT FOR G_{PE}, AND EFFICIENCY SPECIFICATIONS.

C1,3: 2.0-50 pF ARCO 461 ELEMENCO
C5: 1000 pF FEED THRU
L1: 1 TURN #18 AWG ¼" I.D.
RFC2: 0.15 uH MOLDED CHOKE

C2,4: 5.0-80 pF ARCO 462 ELEMENCO
C6: 5.0 uF
L2: 2 1/2 TURNS #18 AWG ¼" I.D
BEAD: FERROXCUBE 56-570-65/3B

RFC1: 0.15 uH MOLDED CHOKE WITH BEAD ON GROUND LEG

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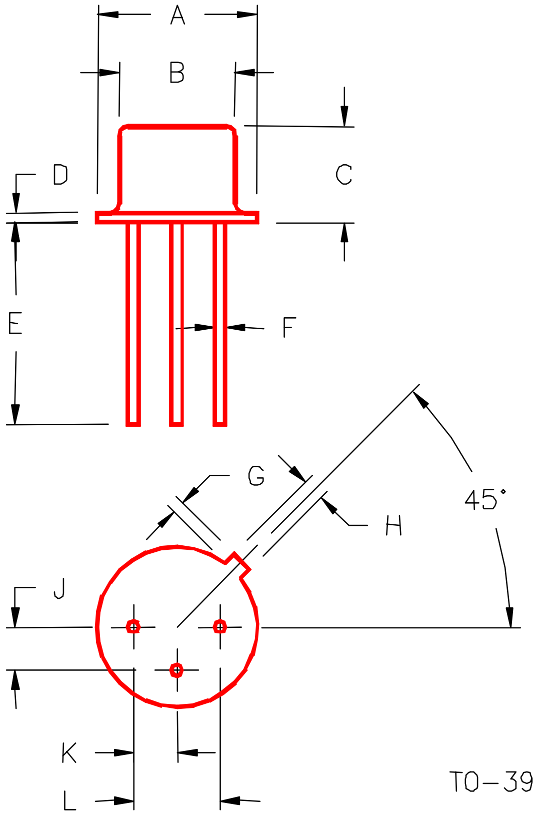
PACKAGE STYLE M246



	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			