



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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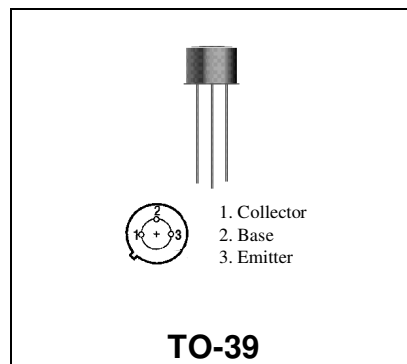


**RF & MICROWAVE TRANSISTORS
UHF CLASS C MOBILE APPLICATIONS****Features**

- 470 MHz
- $P_{OUT} = 3W$
- $G_P = 9.5dB$ MINIMUM
- COMMON EMITTER CONFIGURATION

DESCRIPTION:

The MS1649 is a 12.5V epitaxial NPN planar transistor designed primarily for UHF communications. This device is packaged in a grounded emitter TO-39 package for increased power gain and optimum heat dissipation.

**ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)**

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	16	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Collector Current	1.0	A
P_{TOT}	Total Power Dissipation	7.8	W
T_{STG}	Storage Temperature	-65 to +200	$^{\circ}C$
T_J	Junction Temperature	+200	$^{\circ}C$

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-Case	35.0	$^{\circ}C/W$
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ELECTRICAL SPECIFICATIONS (T_{case} = 25 °C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	I_C = 50mA	V_{BE} = 0	36	---	---	V
BV_{CEO}	I_C = 50mA	I_B = 0	16	---	---	V
BV_{EBO}	I_E = 1mA	I_C = 0	3.5	---	---	V
I_{CES}	V_{CB} = 12.5V	V_{BE} = 0	---	---	1.0	mA
H_{FE}	V_{CE} = 5.0V	I_C = 100mA	20	---	150	---

DYNAMIC

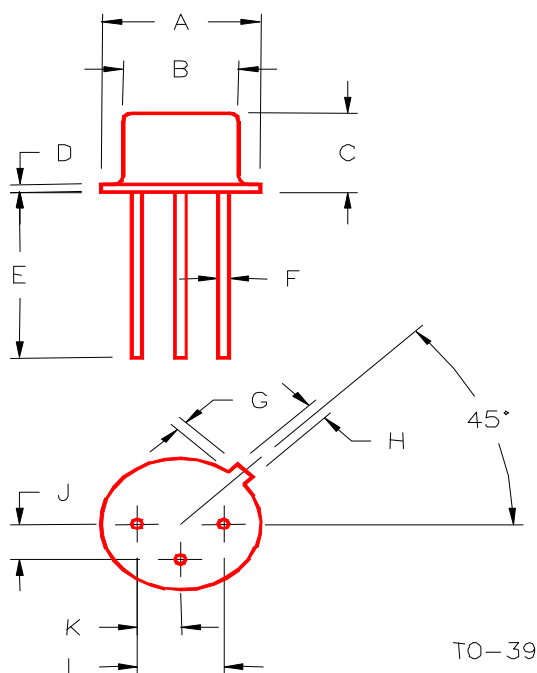
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
G_{PE}	f = 470MHz	P_{OUT} = 3.0W	V_{CC} = 12.5V	9.5	---	---	dB
η	f = 470MHz	P_{OUT} = 3.0W	V_{CC} = 12.5V	50	---	---	%
C_{OB}	f = 1.0MHz	V_{CB} = 12.5 V		---	---	12	pf

IMPEDANCE DATA

FREQ	Z_{IN}(Ω)	Z_{CL}(Ω)
175 MHz	3.5 + j1.2	14.0 + j10.0
470 MHz	3.3 + j3.2	11.0 + j5.7

PACKAGE MECHANICAL DATA

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			