

MS1409

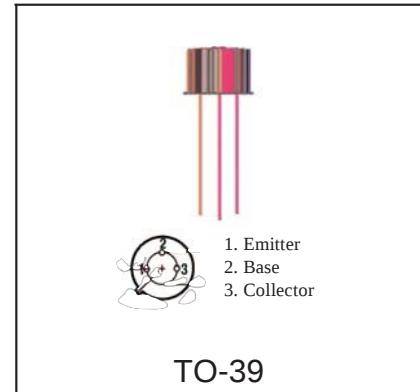
RF & MICROWAVE TRANSISTOR VHF COMMUNICATIONS

HDWXUHV

- 175 MHz
- 28 VOLTS
- $P_{OUT} = 2.5\text{ W}$
- $G_P = 10\text{ dB}$ MINIMUM
- COMMON EMITTER CONFIGURATION

6&5,37,21:

The MS1409 is a NPN silicon transistor designed for high power gain VHF and UHF communication applications. Gold metalization and diffused emitter ballast resistors provide superior long term reliability.


25°C

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage	65	V
V_{CEO}	Collector-emitter Voltage	40	V
V_{EBO}	Emitter-base Voltage	4.0	V
P_{DISS}	Total Power Dissipation	7.0	W
I_C	Collector Peak Current	1.0	A
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to 200	°C

7KHUPDO 'DWD

$R_{TH(J-CASE)}$	Thermal Resistance Junction-case	25	°C/W
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$\left(\frac{1}{\beta} + \frac{1}{\beta^2} \right) \approx 1.2 \times 10^{-4}$ at 25°C
 $\beta \approx 67$

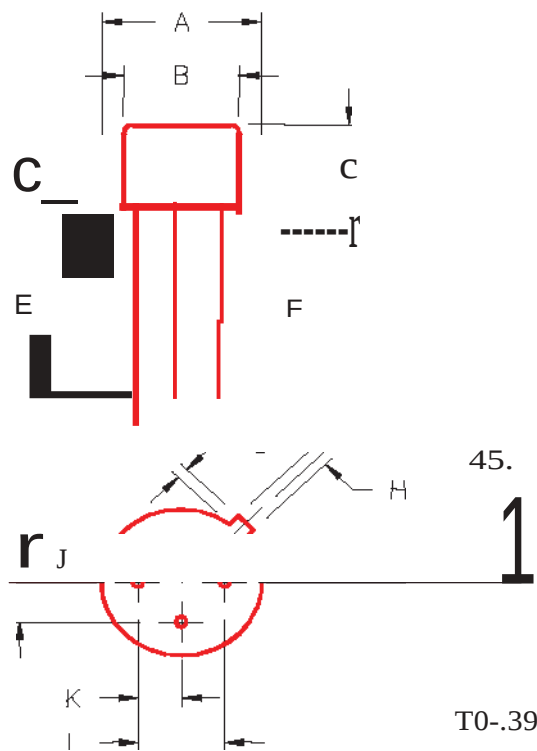
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BVebo	$I_E = 0.10 \text{ mA}$ $I_C = 0 \text{ mA}$	4.0	---	---	V
BVcbo	$I_C = 0.3 \text{ mA}$ $I_E = 0 \text{ mA}$	65	---	---	V
BVceo	$I_C = 3 \text{ mA}$ $I_S = 0 \text{ mA}$	40	---	---	V
Iceo	$V_{CE} = 30 \text{ V}$	---	---	0.1	mA
H_{FE}	$V_{CE} = 5 \text{ V}$ $I_C = 100 \text{ mA}$	20	---	200	B

$\beta < 100$

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 175 \text{ MHz}$ $P_{IN} = 0.25 \text{ W}$ $V_{CC} = 28 \text{ V}$	2.5	---	---	W
η_C	$f = 175 \text{ MHz}$ $P_{IN} = 0.25 \text{ W}$ $V_{CC} = 28 \text{ V}$	50	---	---	%
G_P	$f = 175 \text{ MHz}$ $P_{IN} = 0.25 \text{ W}$ $V_{CC} = 28 \text{ V}$	10	---	---	dB
C_{OB}	$f = 1.0 \text{ MHz}$ $V_{CB} = 30 \text{ V}$	---	---	10	pf

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		.260/6,60	L	.190/4,8.3	.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			