



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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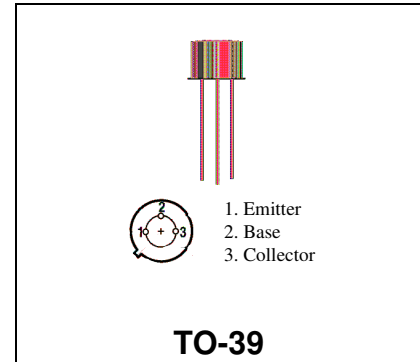
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**RF & MICROWAVE DISCRETE  
LOW POWER TRANSISTORS**
**Features**

- Silicon NPN, TO-39 packaged VHF/UHF Transistor
- $f_t = 3.0 \text{ GHz (typ) @ 300MHz, 14v, 90mA,}$
- $G_{U \text{ max}} = 12.5\text{dB (typ) @ 300 MHz, 15v, 40mA}$
- $|S_{21}|^2 = 12.5\text{dB (typ) @ 300 MHz, 15v, 40mA}$


**DESCRIPTION:**

The MRF586 is a silicon NPN transistor, designed for VHF and UHF equipment. Applications include amplifier, pre-driver, driver, and output stages. It is also suitable for oscillator and frequency-multiplier functions.

**ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)**

Symbol	Parameter	Value	Unit
$V_{CEO}$	Collector-Emitter	17	V
$V_{CBO}$	Collector-Base Voltage	35	V
$V_{EBO}$	Emitter-Base Voltage	3.0	V
$P_D$	Total Device Dissipation	1.0	W
$I_C$	Collector Current	200	mA

**Thermal Data**

$P_D$	Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	1.0 5.71	Watts mW/°C
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**ELECTRICAL SPECIFICATIONS**

**STATIC**

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$BV_{CEO}$	$I_C = 5.0 \text{ mA}$	17	-	-	V
$BV_{EBO}$	$I_E = 0.1 \text{ mA}$	3.0	-	-	V
$BV_{CBO}$	$I_C = 1.0 \text{ mA}$	30	-	-	V
$I_{CBO}$	$V_{CB} = 10 \text{ V}$	-	50	-	$\mu\text{A}$
HFE	$V_{CE} = 5.0 \text{ V}$ $I_C = 50 \text{ mA}$	40	-	200	-

**DYNAMIC**

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$f_T$	$f = 300 \text{ MHz}$ $I_C = 90 \text{ mA}$ $V_{CE} = 14 \text{ V}$	-	3.0	-	GHz
$C_{OB}$	$f = 1.0 \text{ MHz}$ $V_{CB} = 10 \text{ V}$		3.0		pf

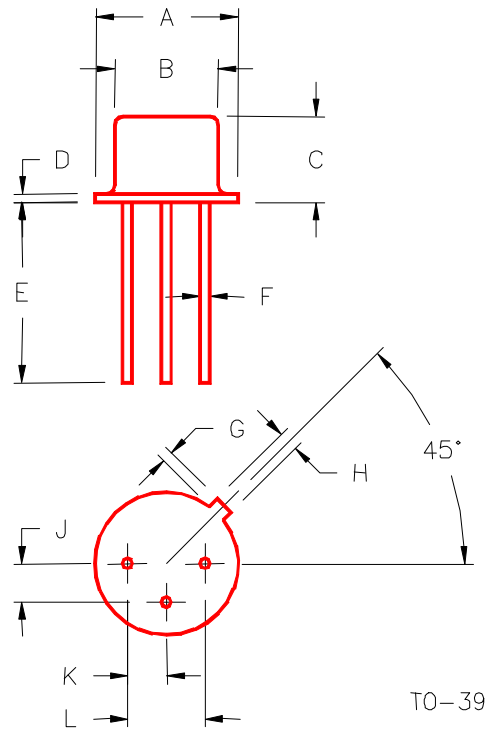
**FUNCTIONAL**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$G_{U \text{ max}}$	Maximum Unilateral Gain (1)	$I_C = 40 \text{ mA}, V_{CE} = 15 \text{ V}, f = 300 \text{ MHz}$	-	12.5	-	dB
MAG	Maximum Available Gain	$I_C = 40 \text{ mA}, V_{CE} = 15 \text{ V}, f = 300 \text{ MHz}$	-	13.5	-	dB
$ S_{21} ^2$	Insertion Gain	$I_C = 40 \text{ mA}, V_{CE} = 15 \text{ V}, f = 300 \text{ MHz}$	10	11.5	-	dB

**Table 1. Common Emitter S-Parameters, @ VCE = 15 V, IC = 40 mA**

f (MHz)	S11		S21		S12		S22	
	S11	$\angle \phi$	S21	$\angle \phi$	S12	$\angle \phi$	S22	$\angle \phi$
100	.096	107	10.28	103	.053	84	.479	-40
200	.129	114	5.58	89	.104	83	.361	-49
300	.165	108	3.94	79	.160	76	.356	-56
400	.185	115	3.04	71	.192	74	.388	-71
500	.237	115	2.64	67	.246	75	.384	-79
600	.247	112	2.42	60	.288	71	.408	-82
700	.247	113	2.26	54	.326	69	.417	-84
800	.238	118	2.06	48	.334	67	.432	-87
900	.260	119	1.97	47	.369	71	.420	-91
1000	.246	116	2.06	43	.405	67	.444	-92

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			