



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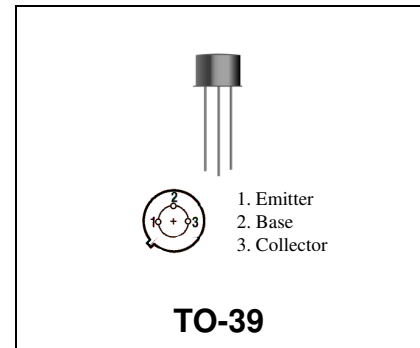
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**RF & MICROWAVE DISCRETE
LOW POWER TRANSISTORS**
Features

- Silicon NPN, high Frequency, high breakdown Transistor
- Maximum Unilateral Gain = 13.5 dB (typ) @ f = 200 MHz
- High Collector Base Breakdown Voltage - BVCBO = 100 V (min)
- High F_T - 1400 MHz


DESCRIPTION:

Designed primarily for use in high frequency and medium and high resolution color video display monitors as well as other applications requiring high breakdown characteristics.

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

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	70	Vdc
V_{CBO}	Collector-Base Voltage	100	Vdc
V_{EBO}	Emitter-Base Voltage	3.0	Vdc
I_C	Collector Current	400	mA

Thermal Data

P_D	Total Device Dissipation @ $T_A = 25^{\circ}C$ Derate above $25^{\circ}C$	3.5 20	Watts mW/ $^{\circ}C$
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
**STATIC
(off)**

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BVCEO	Collector-Emitter Breakdown Voltage (I _C = 1.0 mA _{dc} , I _B = 0)	70	-	-	V _{dc}
BVCBO	Collector-Base Breakdown Voltage (I _C = 100 μA _{dc} , I _E = 0)	100	-	-	V _{dc}
BVEBO	Emitter-Base Breakdown Voltage (I _E = 100 μA _{dc} , I _C = 0)	3.0	-	-	V _{dc}
ICBO	Collector Cutoff Current (V _{CE} = 80 V _{dc} , I _E = 0 V _{dc})	-	-	20	μA
ICES	Collector Cutoff Current (V _{CE} = 80 V _{dc} , I _E = 0 V _{dc})	-	1.0	100	μA

(on)

HFE	DC Current Gain (I _C = 50 mA _{dc} , V _{CE} = 6.0 V _{dc})	15	-	-	-
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DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
COB	Output Capacitance (V _{CB} = 10V _{dc} , I _E = 0, f = 1 MHz)	-	2.5	-	pF
CIB	Input Capacitance (V _{EB} = 3V _{dc} , I _E = 0, f = 1 MHz)	-	6.1	-	pF
f _T	Current-Gain - Bandwidth Product (I _C = 50 mA _{dc} , V _{CE} = 10 V _{dc} , f = 250 MHz)	1000	1500	-	MHz

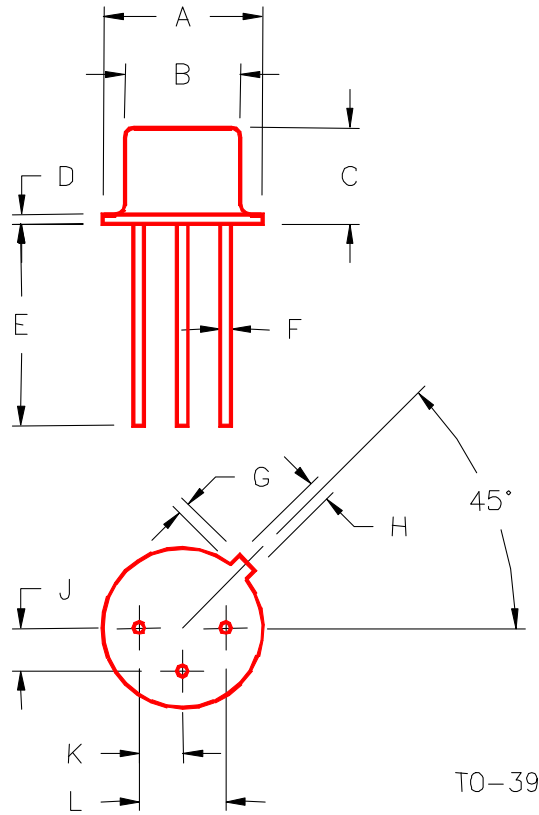
FUNCTIONAL

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$G_{U\max}$	Maximum Unilateral Gain	IC = 50 mAdc, VCE = 25Vdc, f = 200 MHz	-	13.5	-	dB
MAG	Maximum Available Gain	IC = 50 mAdc, VCE = 25Vdc, f = 200 MHz	-	13.5	-	dB
$ S_{21} ^2$	Insertion Gain	IC = 50 mAdc, VCE = 25Vdc, f = 200 MHz	11.7	12.7	-	dB

Table 1. Common Emitter S-Parameters, @ VCE = 25 V, IC = 50 mA

f (MHz)	S11		S21		S12		S22	
	S11	$\angle \phi$	S21	$\angle \phi$	S12	$\angle \phi$	S22	$\angle \phi$
100	0.221	-143	8.54	97	0.047	82	0.508	14
200	0.219	-108	4.36	87	0.091	87	0.413	49
300	0.250	-72	2.98	79	0.141	87	0.406	82
400	0.329	-34	2.39	72	0.178	84	0.445	108
500	0.338	9	2.11	70	0.237	87	0.409	140
600	0.348	51	1.83	65	0.292	86	0.412	176
700	0.371	94	1.61	61	0.35	86	0.411	-147
800	0.374	140	1.44	59	0.383	85	0.413	-112
900	0.402	-170	1.45	63	0.428	88	0.386	-78
1000	0.438	-126	1.56	64	0.503	86	0.405	-42

PACKAGE STYLE M246



TO-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			