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**2SC3739**

## Features

- High Gain Bandwidth Product:  $f_T=200$  MHz (Min.)
- Complementary to 2SA1464

**NPN Silicon  
Epitaxial Transistors**

## Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5.0	V
$I_C$	Collector Current	500	mA
$P_C$	Collector power dissipation	200	mW
$T_J$	Junction Temperature	-55 to +150	$^{\circ}C$
$T_{STG}$	Storage Temperature	-55 to +150	$^{\circ}C$

## Electrical Characteristics @ 25 $^{\circ}C$ Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
<b>OFF CHARACTERISTICS</b>					
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=40Vdc, I_E=0$ )	---	---	100	nAdc
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=4.0Vdc, I_C=0$ )	---	---	100	nAdc

## ON CHARACTERISTICS

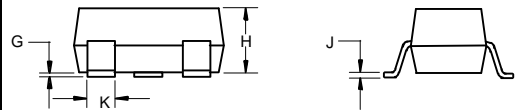
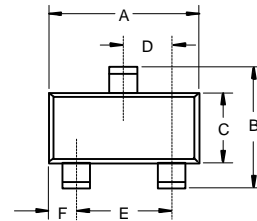
$h_{FE(1)}$	Forward Current Transfer ratio ( $I_C=150mAdc, V_{CE}=1.0Vdc$ )	75	150	300	---	
$h_{FE(2)}$	Forward Current Transfer ratio ( $I_C=500mAdc, V_{CE}=2.0Vdc$ )	20	75	---	---	
$V_{CE(sat)}$	Collector Saturation Voltage ( $I_C=500mAdc, I_B=50mAdc$ )	---	0.25	0.75	Vdc	
$V_{BE(SAT)}$	Base Saturation Voltage ( $I_C=500mAdc, I_B=50mAdc$ )	---	1.0	1.2	Vdc	
$C_{ob}$	Collector Capacitance ( $V_{CB}=10Vdc, I_C=0, f=1.0MHz$ )	---	3.5	8.0	pF	
$f_T$	Gain Bandwidth product ( $V_{CE}=10Vdc, I_C=20mAdc$ )	200	400	---	MHz	
$t_{on}$	Turn-on Time	$V_{CC}=30V,$ $I_C=150mA$ $I_{B1}=I_{B2}=15mA$	---	---	35	ns
$t_{stg}$	Storage Time		---	---	225	ns
$t_{off}$	Turn-off Time		---	---	275	ns

## $h_{FE}$ CLASSIFICATION

Marking	B12	B13	B14
$h_{FE1}$	75-150	100-200	150-300

\* Pulse Test PW<350us, duty cycle<2%

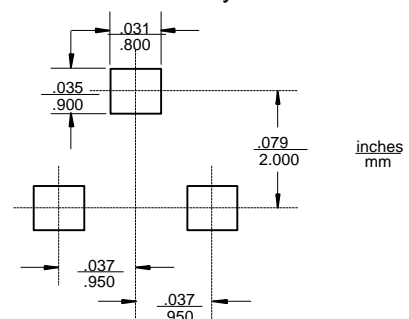
## SOT-23



## DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

## Suggested Solder Pad Layout



# 2SC3739

