



Micro Commercial Components

S9013

NPN Silicon Transistors

Features

- TO-92 Plastic-Encapsulate Transistors
- Capable of 0.625Watts($T_{amb}=25^{\circ}C$) of Power Dissipation.
- Collector-current 0.5A
- Collector-base Voltage 40V
- Operating and storage junction temperature range: $-55^{\circ}C$ to $+150^{\circ}C$
- Marking Code: S9013
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1



Electrical Characteristics @ 25°C Unless otherwise specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\mu A_{dc}$, $I_E=0$)	40	---	Vdc
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=0.1mA_{dc}$, $I_B=0$)	25	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\mu A_{dc}$, $I_C=0$)	5.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=40V_{dc}$, $I_E=0$)	---	0.1	μA_{dc}
I_{CEO}	Collector Cutoff Current ($V_{CE}=20V_{dc}$, $I_B=0$)	---	0.1	μA_{dc}
I_{EBO}	Emitter Cutoff Current ($V_{EB}=5.0V_{dc}$, $I_C=0$)	---	0.1	μA_{dc}

ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain ($I_C=50mA_{dc}$, $V_{CE}=1.0V_{dc}$)	64	400	---
$h_{FE(2)}$	DC Current Gain ($I_C=500mA_{dc}$, $V_{CE}=1.0V_{dc}$)	40	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=500mA_{dc}$, $I_B=50mA_{dc}$)	---	0.6	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=500mA_{dc}$, $I_B=50mA_{dc}$)	---	1.2	Vdc
V_{EB}	Base- Emitter Voltage ($I_E=100mA_{dc}$)	---	1.4	Vdc

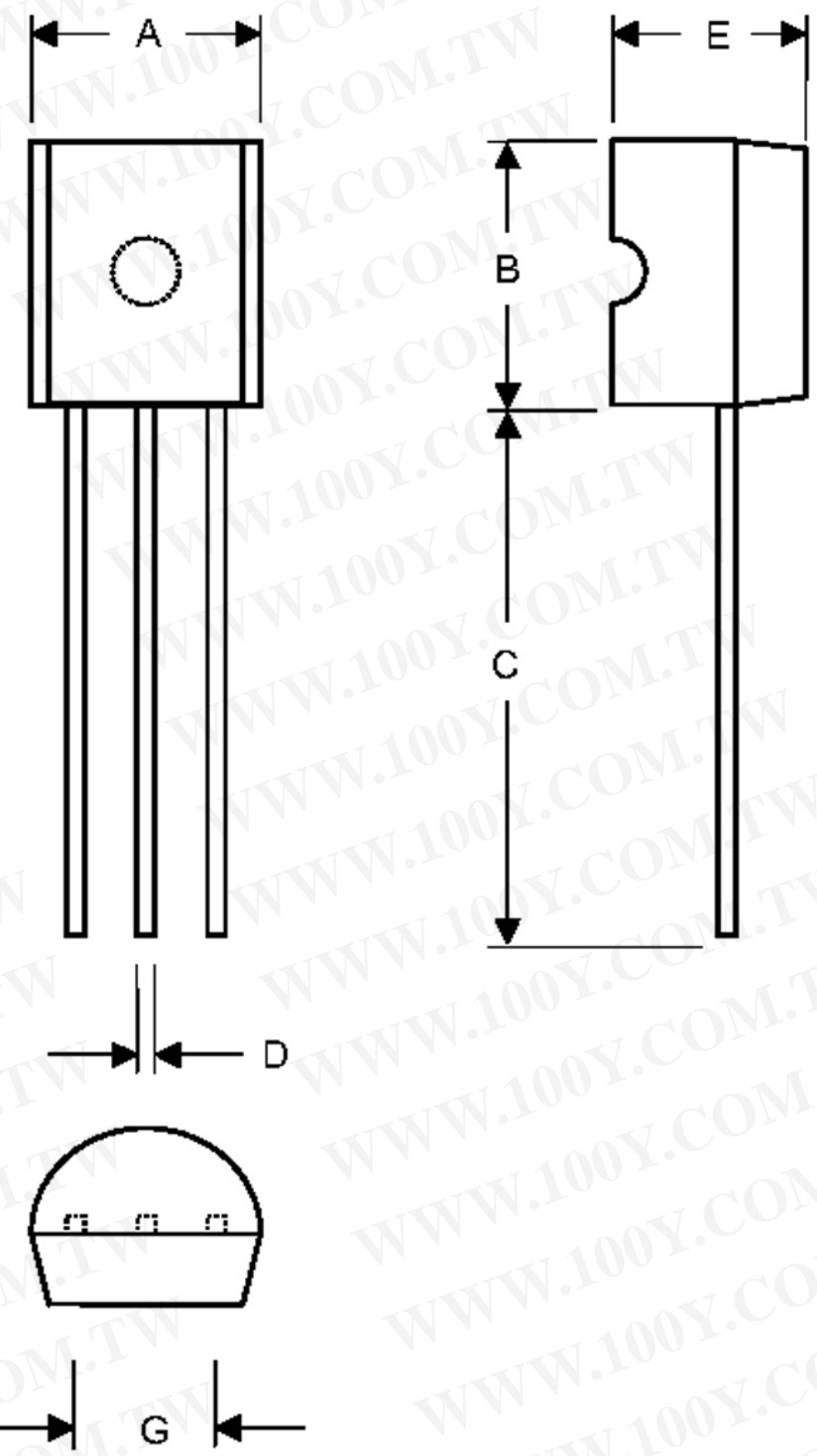
SMALL-SIGNAL CHARACTERISTICS

f_T	Transistor Frequency ($I_C=20mA_{dc}$, $V_{CE}=6.0V_{dc}$, $f=30MHz$)	150	---	MHz
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CLASSIFICATION OF $h_{FE(1)}$

Rank	G	H	I
Range	112-166	144-202	190-300

TO-92



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.170	.190	4.33	4.83	
B	.170	.190	4.30	4.83	
C	.550	.590	13.97	14.97	
D	.010	.020	0.36	0.56	
E	.130	.160	3.30	3.96	
G	.010	.104	2.44	2.64	



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勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

Ordering Information

Device	Packing
(Part Number)-AP	Tape&Reel;2Kpcs/Box
(Part Number)-BP	Bulk;1Kpcs/Bag

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