



Micro Commercial Components

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2SA1013-R
2SA1013-O
2SA1013-Y

Features

- Lead Free Finish/Rohs Compliant ("P" Suffix designates Compliant. See ordering information)
- Capable of 0.9Watts of Power Dissipation.
- Collector-current -1.0A
- Collector-base Voltage -160V
- Operating and storage junction temperature range: -55°C to +150°C
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1

PNP
Epitaxial Silicon
Transistor

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emmitter Breakdown Voltage ($I_C=-1.0mA$, $I_B=0$)	-160	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=-100\mu A$, $I_E=0$)	-160	---	Vdc
$V_{(BR)EBO}$	Emmitter-Base Breakdown Voltage ($I_E=-10mA$, $I_C=0$)	-6.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=-150Vdc$, $I_E=0$)	---	-1.0	μA
I_{CEO}	Collector Cutoff Current ($V_{CB}=-120Vdc$, $I_E=0$)	---	-10	μA
I_{EBO}	Emmitter Cutoff Current ($V_{EB}=-6.0Vdc$, $I_C=0$)	---	-1.0	μA

ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain ($I_C=-200mA$, $V_{CE}=-5.0Vdc$)	65	310	---
$h_{FE(2)}$	DC Current Gain ($I_C=-50mA$, $V_{CE}=-5.0Vdc$)	40	---	---
$V_{CE(sat)}$	Collector-Emmitter Saturation Voltage ($I_C=-500mA$, $I_B=-50mA$)	---	-1.5	Vdc
V_{BE}	Base-Emmitter Saturation Voltage ($I_C=-5.0mA$, $V_{CE}=-5.0Vdc$)	---	-0.75	Vdc

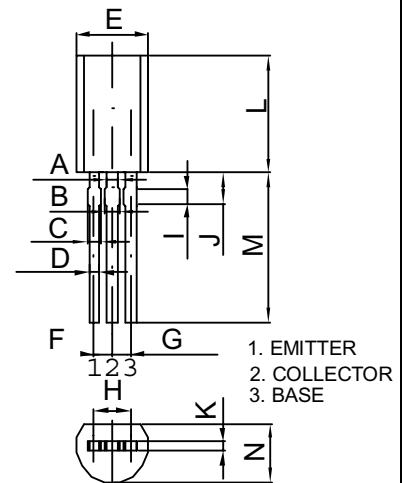
SMALL-SIGNAL CHARACTERISTICS

f_T	Transistor Frequency ($I_C=-200mA$, $V_{CE}=-5.0Vdc$, $f=30MHz$)	-15	---	MHz
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CLASSIFICATION OF $h_{FE(1)}$

Rank	R	O	Y
Range	60-120	120-200	200-300

TO-92MOD



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	---	.030	---	.750	
B	---	.039	---	1.00	
C	---	.031	---	.80	
D	---	.024	---	0.60	
E	---	.201	---	5.10	
F	.050		1.27		
G	.050		1.27		
H	.100		2.54		
I	.039		1.00		
J	---	.087	---	2.20	
K	---	.024	---	.60	
L	---	.323	---	8.20	
M	---	.413	---	10.50	
N	---	.161	---	4.10	

www.mccsemi.com



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Ordering Information

Device	Packing
(Part Number)-BP	Bulk;500pcs/Bag

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