



Micro Commercial Components



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

Features

- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS 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
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C = -1.0\text{mA}$, $I_B = 0$)	-160	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C = -100\mu\text{A}$, $I_E = 0$)	-160	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E = -10\text{mA}$, $I_C = 0$)	-6.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB} = -150\text{Vdc}$, $I_E = 0$)	---	-1.0	μA
I_{CEO}	Collector Cutoff Current ($V_{CB} = -120\text{Vdc}$, $I_E = 0$)	---	-10	μA
I_{EBO}	Emitter Cutoff Current ($V_{EB} = -6.0\text{Vdc}$, $I_C = 0$)	---	-1.0	μA

ON CHARACTERISTICS

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

SMALL-SIGNAL CHARACTERISTICS

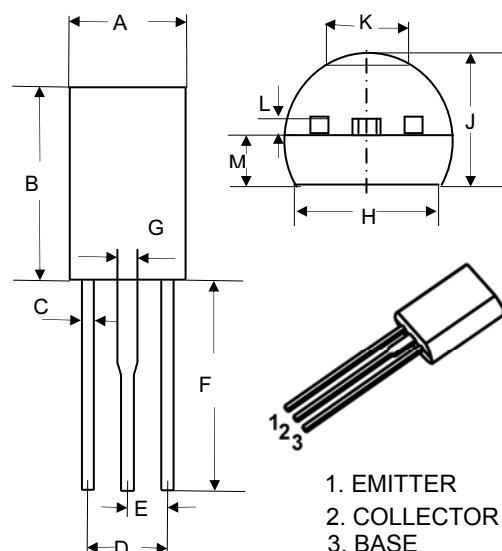
f_T	Transistor Frequency ($I_C = -200\text{mA}$, $V_{CE} = -5.0\text{Vdc}$, $f = 30\text{MHz}$)	-15	---	MHz
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CLASSIFICATION OF $h_{FE(1)}$

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

PNP
Epitaxial Silicon
Transistor

TO-92MOD



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.228	.244	5.80	6.20	
B	.331	.346	8.40	8.80	
C	.016	.024	0.40	0.60	
D	.114	.122	2.90	3.10	
E	.059		1.50		
F	.543	.559	13.80	14.20	
G	.035	.043	0.90	1.10	
H	.157	----	4.00	---	
J	.185	.201	4.70	5.10	
K	---	.063	----	1.60	
L	.016	.020	0.40	0.50	
M	.068	.080	1.73	2.03	

www.mccsemi.com

Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 50Kpcs/Carton

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