

M·C·C·

Micro Commercial Components



Micro Commercial Components
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**2SA812-M4
2SA812-M5
2SA812-M6
2SA812-M7**

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- High DC Current Gain: $90 \leq h_{FE} \leq 600$. ($V_{CE}=-6.0V$, $I_C=-1mA$)
- High voltage: $V_{CEO}=-50V$
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{CBO}	Collector-Base Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current	-100	mA
P_C	Collector power dissipation	200	mW
T_J	Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
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OFF CHARACTERISTICS

I_{CBO}	Collector Cutoff Current ($V_{CB}=-60Vdc, I_E=0$)	---	---	-0.1	uAdc
I_{EBO}	Emitter Cutoff Current ($V_{EB}=-5.0Vdc, I_C=0$)	---	---	-0.1	uAdc

ON CHARACTERISTICS

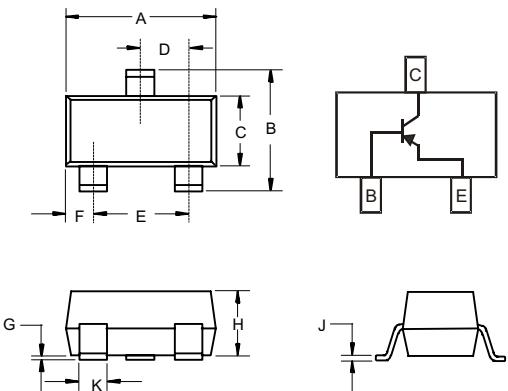
h_F	DC Current Gain* ($I_C=-1.0mAdc, V_{CE}=-6.0Vdc$)	90	---	600	---
$V_{CE(sat)}$	Collector Saturation Voltage* ($I_C=-100mAdc, I_B=-10mAdc$)	---	---	-0.3	Vdc
V_{BE}	Base Emitter Voltage* ($V_{CE}=-6.0Vdc, I_C=-1.0mAdc$)	---	---	-0.68	Vdc
f_T	Gain Bandwidth product ($V_{CE}=-6.0Vdc, I_E=-10mAdc$)	180	---	---	MHz

CLASSIFICATION OF h_{FE}

Marking	M4	M5	M6	M7
Range	90-180	135-270	200-400	300-600

PNP Silicon Epitaxial Transistors

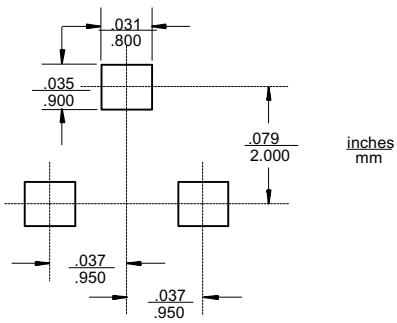
SOT-23



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	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





TM

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Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs/ Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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