



Micro Commercial Components



Micro Commercial Components  
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**2SC2412-Q**  
**2SC2412-R**  
**2SC2412-S**

**NPN Silicon  
Epitaxial Transistors**

**Features**

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Power Dissipation: 0.2W ( $T_A=25^\circ\text{C}$ )
- Collector Current: 0.15A
- Collector-base Voltage: 60V
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

**Maximum Ratings**

Symbol	Rating	Rating	Unit
$V_{CE0}$	Collector-Emitter Voltage	50	V
$V_{CB0}$	Collector-Base Voltage	60	V
$V_{EB0}$	Emitter-Base Voltage	7.0	V
$I_C$	Collector Current	0.15	A
$P_C$	Collector power dissipation	0.2	W
$T_J$	Junction Temperature	-55 to +150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Symbol	Parameter	Min	Typ	Max	Units
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**OFF CHARACTERISTICS**

$V_{CE0}$	Collector-Emitter Voltage ( $I_C=1.0\text{mA}$ , $I_B=0$ )	50	---	---	Vdc
$V_{CB0}$	Collector-Base Voltage ( $I_C=50\mu\text{A}$ , $I_E=0$ )	60	---	---	Vdc
$V_{EB0}$	Emitter-Base Voltage ( $I_E=50\mu\text{A}$ , $I_C=0$ )	7.0	---	---	Vdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=60\text{Vdc}$ , $I_E=0$ )	---	---	0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=7.0\text{Vdc}$ , $I_C=0$ )	---	---	0.1	$\mu\text{A}$

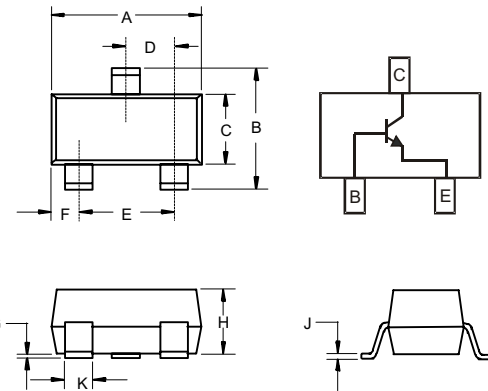
**ON CHARACTERISTICS**

$h_{FE}$	DC Current Gain ( $I_C=1.0\text{mA}$ , $V_{CE}=6.0\text{Vdc}$ )	120	---	560	---
$V_{CE(sat)}$	Collector Saturation Voltage ( $I_C=50\text{mA}$ , $I_B=5.0\text{mA}$ )	---	---	0.4	Vdc
$f_T$	Transition Frequency ( $V_{CE}=12\text{Vdc}$ , $I_C=2.0\text{mA}$ , $f=100\text{MHz}$ )	150	---	---	MHz

**CLASSIFICATION OF  $h_{FE}$**

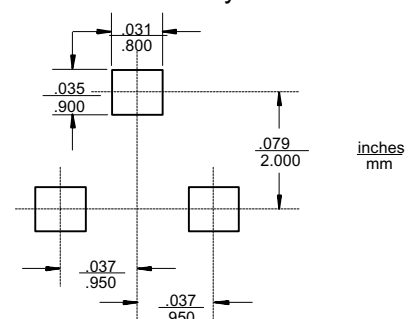
Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

**SOT-23**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
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**





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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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