

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

### FEATURE

- Low Noise: NF=1dB(Typ.), 10dB(Max.)
- Complements of the 2SA1162-C

### CLASSIFICATION OF $h_{FE}$

Product-Rank	Range	Marking
2SC2712-O-C	70~140	LO
2SC2712-Y-C	120~240	LY
2SC2712-GR-C	200~400	LG
2SC2712-BL-C	350~700	LL

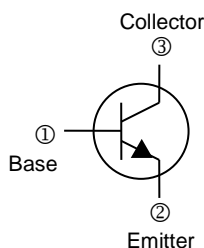
### PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

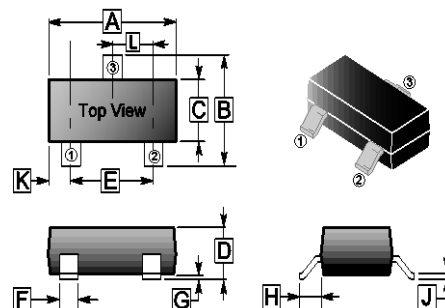
### ORDER INFORMATION

Part Number	Type
2SC2712-□-C	Lead (Pb)-free and Halogen-free

\*□= $h_{FE}$  Mark

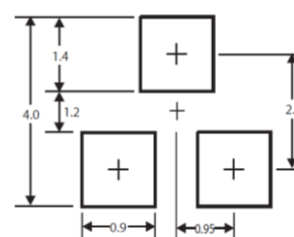


### SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.65	3.10	G	0	0.18
B	2.10	3.00	H	0.55	REF.
C	1.10	1.80	J	0.08	0.26
D	0.89	1.40	K	0.60	REF.
E	1.70	2.30	L	0.95	TYP.
F	0.28	0.55			

### Mounting Pad Layout



\*Dimensions in millimeters

### ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise specified)

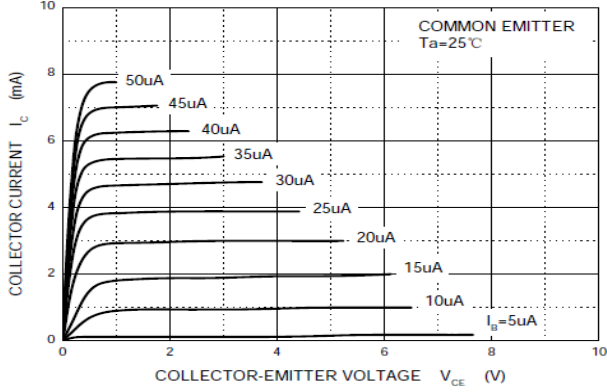
Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current-Continuous	$I_C$	150	mA
Collector Power Dissipation	$P_C$	150	mW
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise specified)

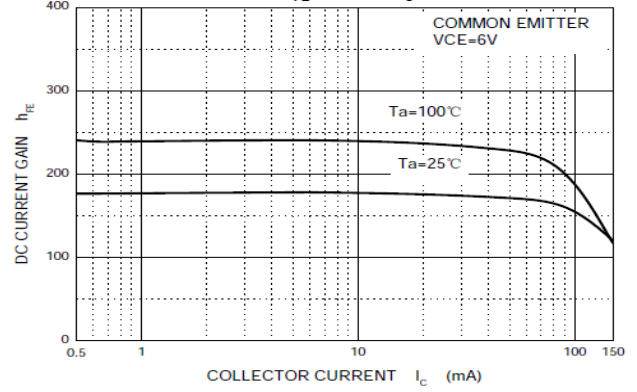
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60	-	-	V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50	-	-	V	$I_C=1\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	-	-	V	$I_E=100\mu\text{A}, I_C=0$
Collector Cut-off Current	$I_{CBO}$	-	-	0.1	$\mu\text{A}$	$V_{CB}=60\text{V}, I_E=0$
Emitter Cut-off Current	$I_{EBO}$	-	-	0.1	$\mu\text{A}$	$V_{EB}=5\text{V}, I_C=0$
DC Current Gain	$h_{FE}$	70	-	700		$V_{CE}=6\text{V}, I_C=2\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	0.1	0.25	V	$I_C=100\text{mA}, I_B=10\text{mA}$
Transition Frequency	$f_T$	80	-	-	MHz	$V_{CE}=10\text{V}, I_C=1\text{mA}$
Collector Output Capacitance	$C_{ob}$	-	2.0	3.5	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$
Noise Figure	NF	-	1	10	dB	$V_{CE}=6\text{V}, I_C=0.1\text{mA}, f=1\text{kHz}, R_G=10\text{k}\Omega$

**CHARACTERISTIC CURVES**

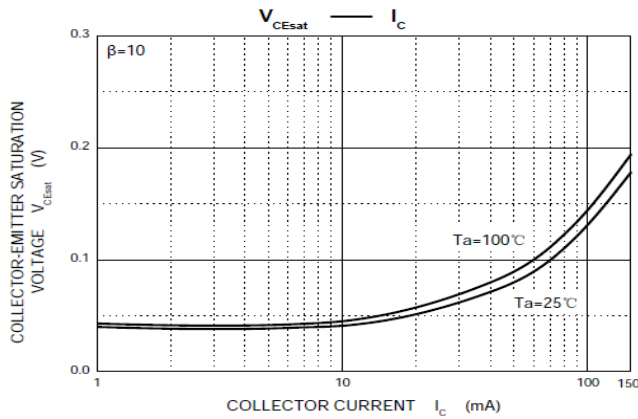
Static Characteristic



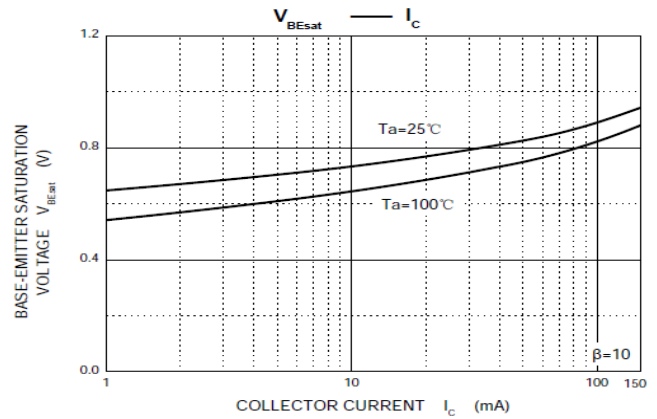
$h_{FE}$  —  $I_C$



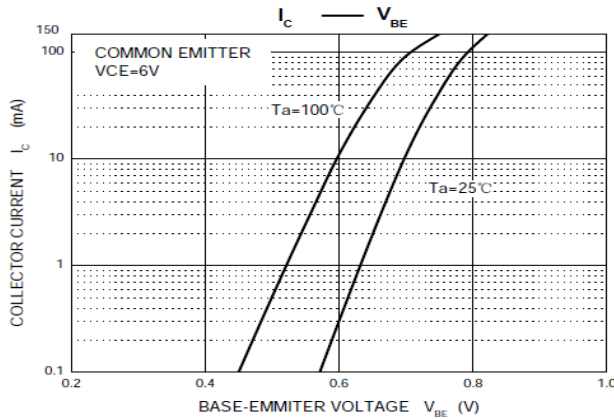
$V_{CEsat}$  —  $I_C$



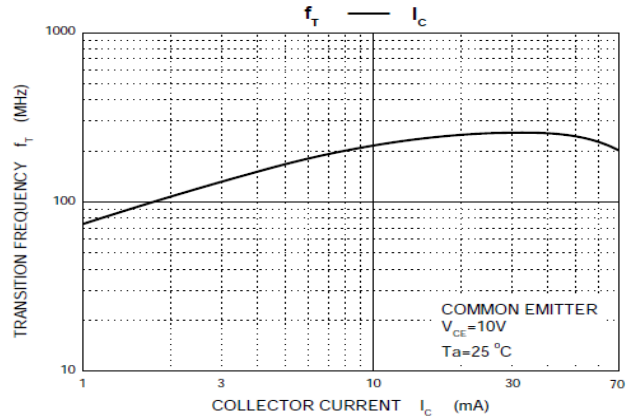
$V_{BEsat}$  —  $I_C$



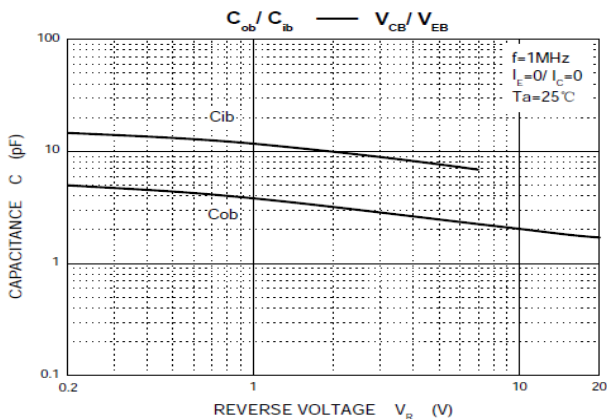
$I_C$  —  $V_{BE}$



$f_T$  —  $I_C$



$C_{ob}/C_{ib}$  —  $V_{CB}/V_{EB}$



$P_c$  —  $T_a$

