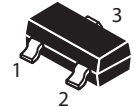
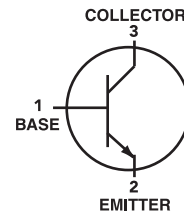


Silicon NPN Transistors
 **Lead(Pb)-Free**

SOT-23
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	50	Vdc
Collector-Base Voltage	V_{CBO}	60	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Collector Current-Continuous	I_C	150	mAdc

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (1) $T_A=25^{\circ}\text{C}$	P_D	150	mW
Derate above 25°C		1.2	mW/ $^{\circ}\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction and Storage, Temperature	T_J, T_{stg}	-55 to +150	$^{\circ}\text{C}$

DEVICE MARKING

2SC2712Q=LO, 2SC2712Y=LY, 2SC2712GR=LG, 2SC2712BL=LL

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C= 1.0\text{mAdc}, I_E=0$)	$V_{(BR)CEO}$	50	-	Vdc
Collector-Base Breakdown Voltage ($I_C= 100 \mu\text{A}, I_B=0$)	$V_{(BR)CBO}$	60	-	Vdc
Emitter-Base Breakdown Voltage ($I_E= 100 \mu\text{Adc}, I_C=0$)	$V_{(BR)EBO}$	5.0	-	Vdc
Collector Cutoff Current ($V_{CB}= 50\text{Vdc}, I_E= 0$)	I_{CEO}	-	0.1	μAdc
Collector Cutoff Current ($V_{CB}= 60\text{Vdc}, I_E=0$)	I_{CBO}	-	0.1	μAdc
Emitter Cutoff Current ($V_{EB}=5.0\text{Vdc}, I_C=0$)	I_{EBO}	-	0.1	μAdc

1.FR-5=1.0 x 0.75 x 0.062 in

2SC2712



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

Characteristics	Symbol	Min	Typ	Max	Unit
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ON CHARACTERISTICS

DC Current Gain ($I_C=2\text{ mA}$, $V_{CE}=6.0\text{ V}$)	h_{FE}	70	-	700	-
Collector-Emitter Saturation Voltage ($I_C=100\text{ mA}$, $I_B=10\text{ mA}$)	$V_{CE(sat)}$	-	0.1	0.25	Vdc
Output Capacitance ($V_{CB}=10\text{ V}$, $I_E=0\text{ A}$, $f=1\text{ MHz}$)	C_{ob}	-	2.0	3.5	PF
Transition Frequency ($I_C=1\text{ mA}$, $V_{CE}=10\text{ V}$)	f_T	80	-	-	MHz

CLASSIFICATION OF h_{FE}

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

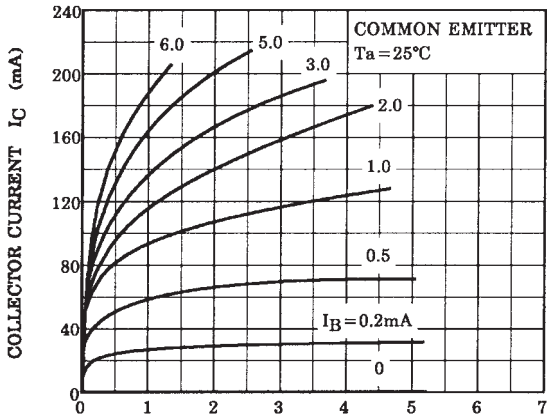


FIG1. COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

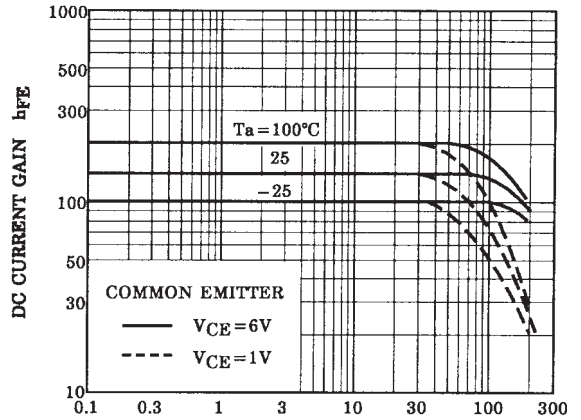


FIG2. COLLECTOR CURRENT I_C (mA)

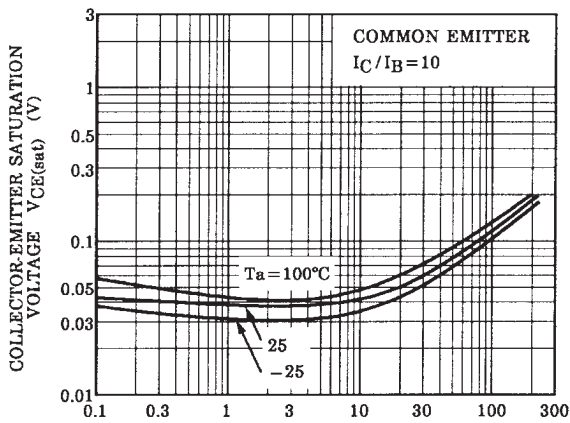


FIG3. COLLECTOR CURRENT I_C (mA)

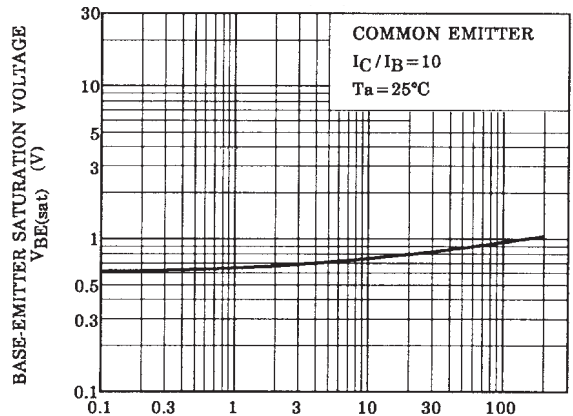


FIG4. COLLECTOR CURRENT I_C (mA)

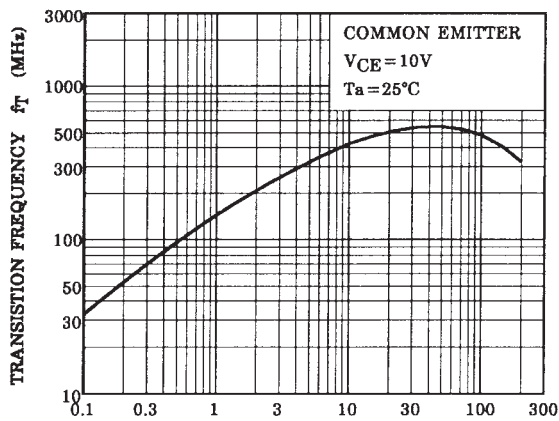


FIG5. COLLECTOR CURRENT I_C (mA)

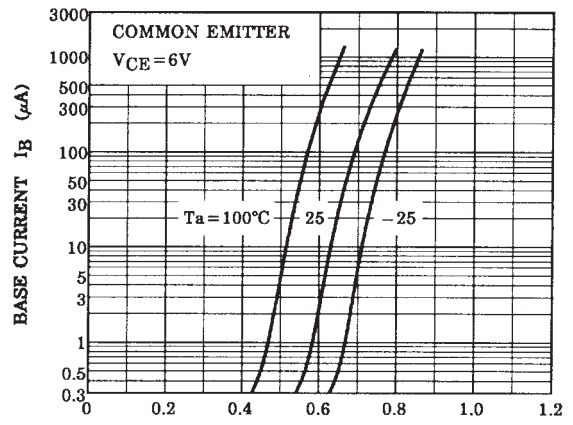


FIG6. BASE-EMITTER VOLTAGE V_{BE} (V)

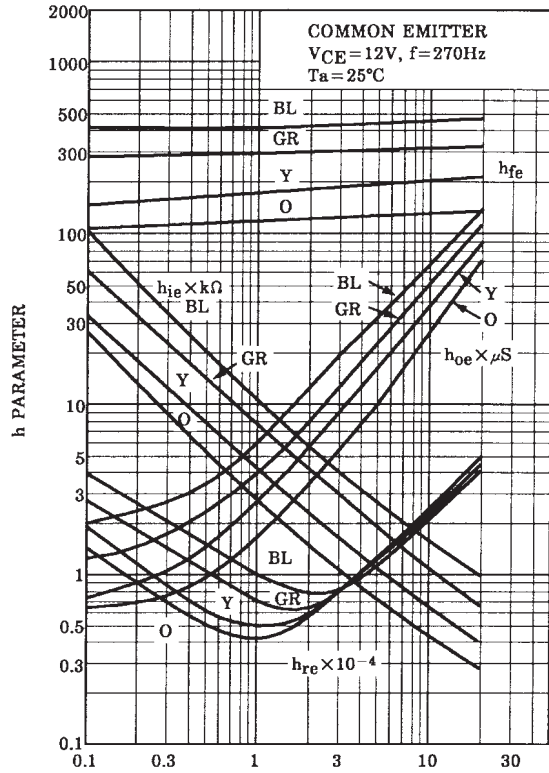


FIG7. COLLECTOR CURRENT I_C (mA)

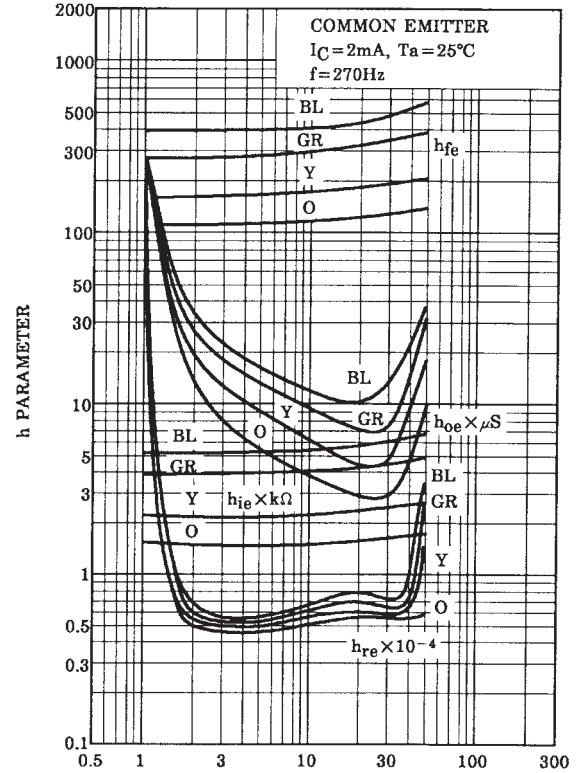


FIG8. COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

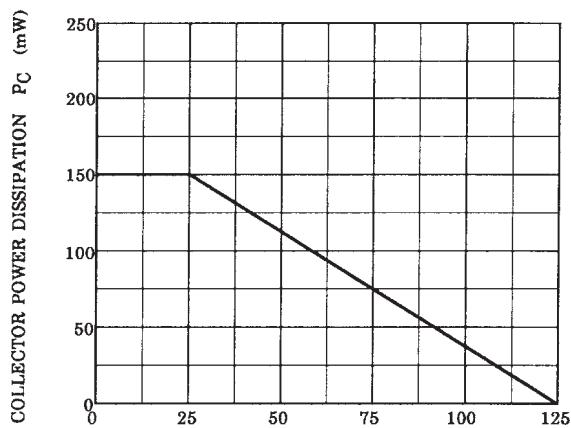
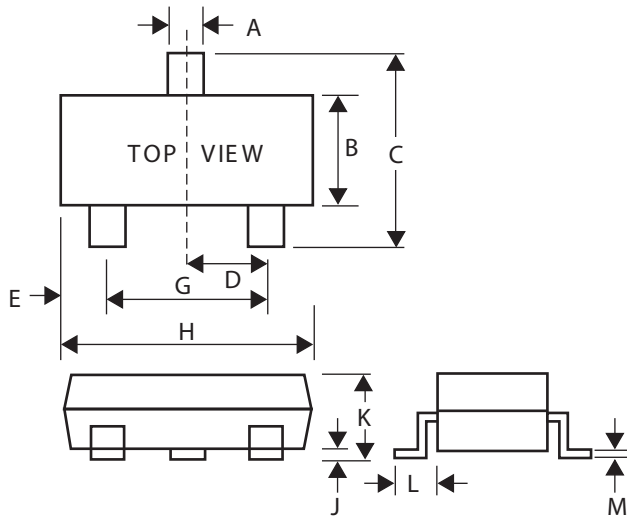


FIG9. AMBIENT TEMPERATURE T_a ($^\circ C$)

SOT-23 Package Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25