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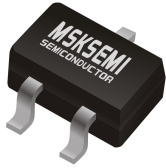
GDT



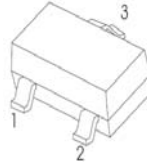
PLED

Product data sheet

**2SC2712** TRANSISTOR (NPN)



SOT - 23



1. BASE
2. EMITTER
3. COLLECTOR

**FEATURE**

- Audio Frequency General Purpose Amplifier Applications
- Low Noise: NF=1 dB (Typ),10dB(MAX)
- Complementary to 2SA1162

**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	50	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	150	mA
P <sub>C</sub>	Collector Power Dissipation	150	mW
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55-150	°C

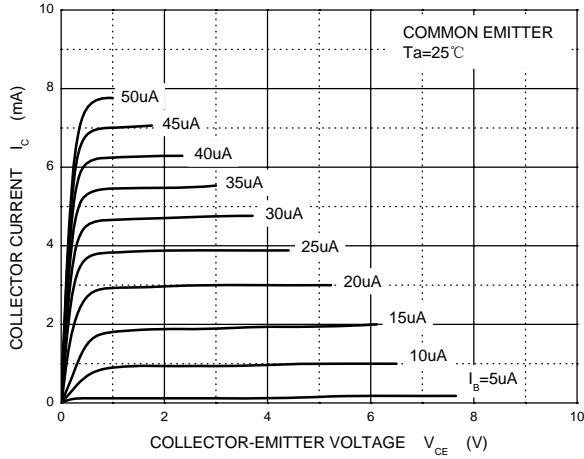
**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 100μA, I <sub>E</sub> =0	60			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	50			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 100μA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 60 V, I <sub>E</sub> =0			0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			0.1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =2mA	70		700	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 100mA, I <sub>B</sub> =10mA		0.1	0.25	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> = 1mA	80			MHz
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1 MHz		2.0	3.5	pF
Noise Figure	NF	V <sub>CE</sub> =6V, I <sub>C</sub> =0.1mA, f=1kHz, R <sub>g</sub> =10kΩ		1.0	10	dB

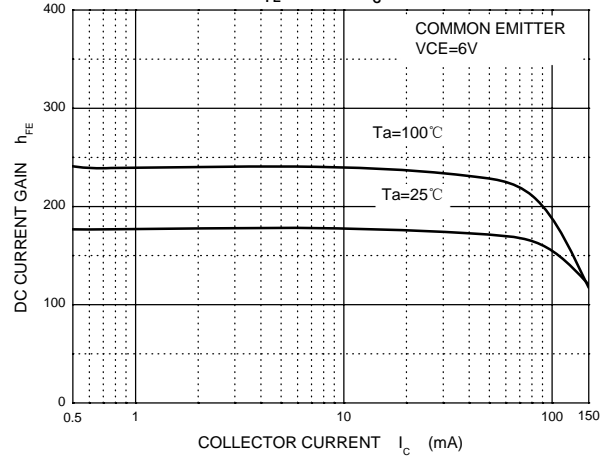
**CLASSIFICATION OF h<sub>FE</sub>**

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

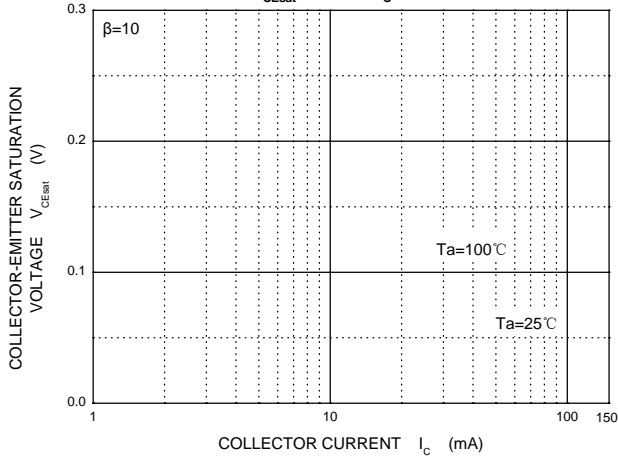
**Static Characteristic**



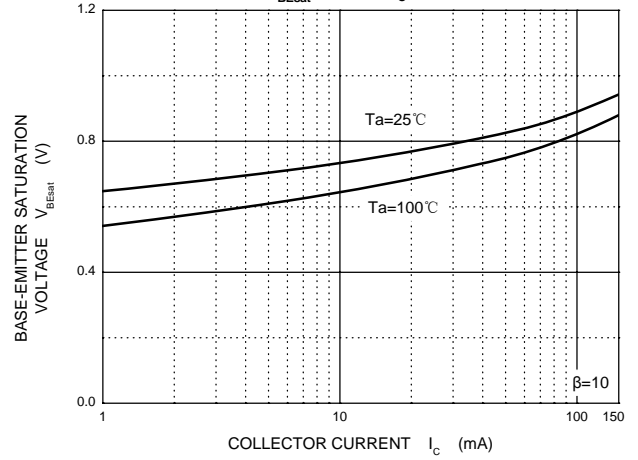
$h_{FE}$  —  $I_c$



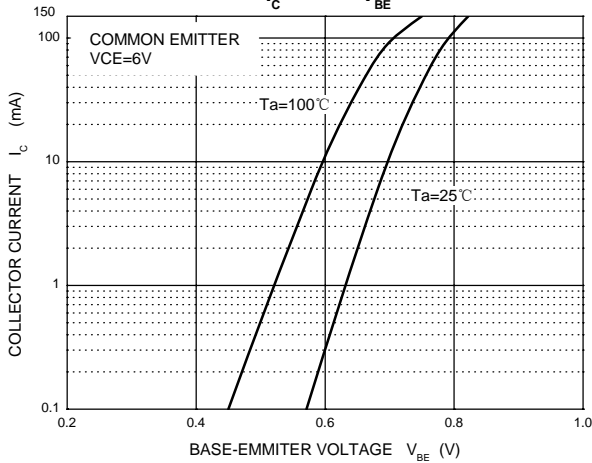
$V_{CEsat}$  —  $I_c$



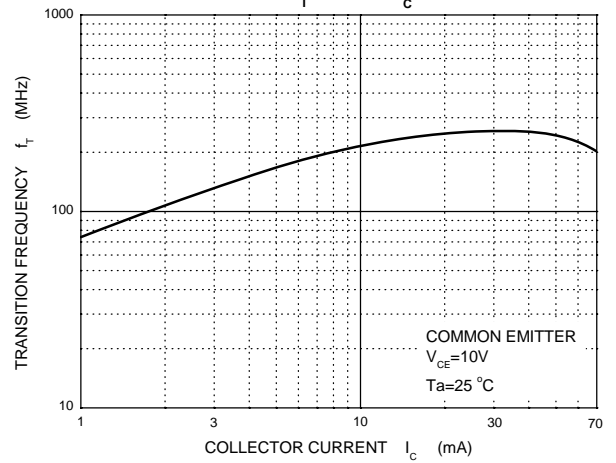
$V_{BEsat}$  —  $I_c$



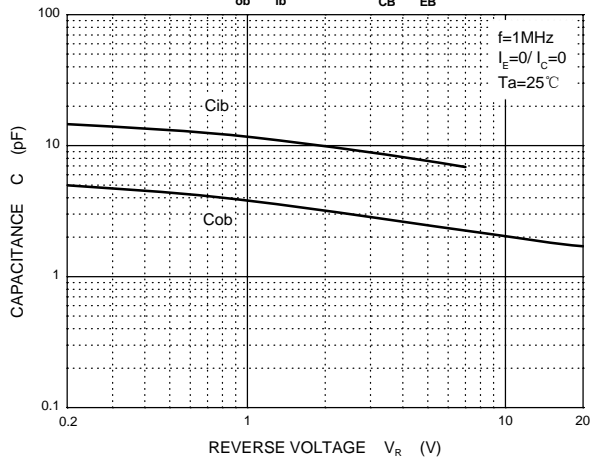
$I_c$  —  $V_{BE}$



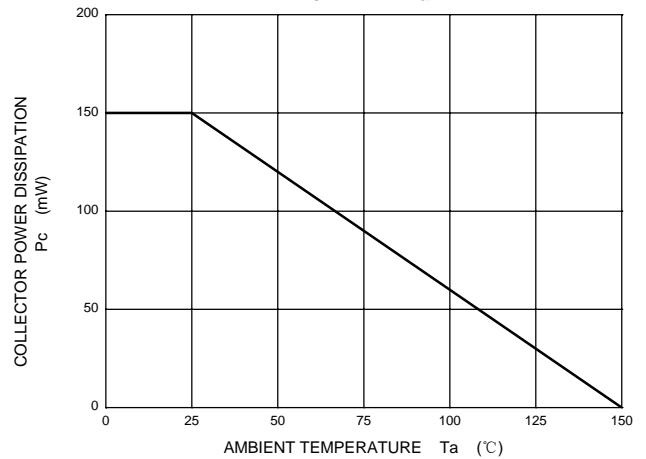
$f_T$  —  $I_c$



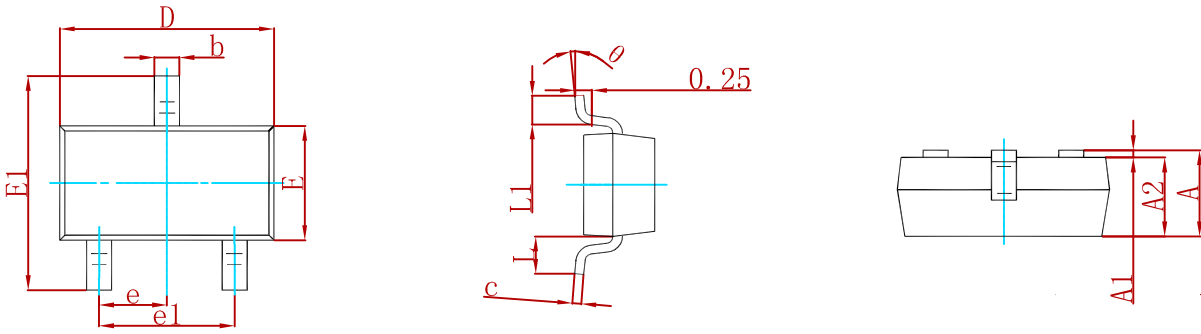
$C_{ob}/C_{ib}$  —  $V_{CB}/V_{EB}$



$P_c$  —  $T_a$

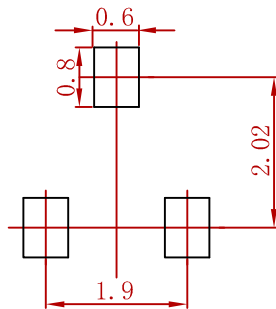


**PACKAGE MECHANICAL DATA**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

**Suggested Pad Layout**



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance: ± 0.05mm.
  3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

P/N	PKG	QTY
2SC2712	SOT-23	3000

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