

# MMBTSC2712

## NPN Silicon Epitaxial Planar Transistor

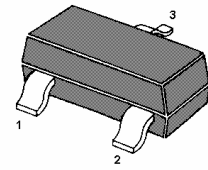
for audio frequency general purpose amplifier applications.

The transistor is subdivided into four groups O, Y, G and L, according to its DC current gain.

### Features

- High voltage and high current:  $V_{CEO}=50V$ ,  $I_C=150mA(max)$
- High  $h_{FE}$ :  $h_{FE}=70\sim700$
- Low noise:  $NF=1dB(typ.)$ ,  $10dB(max)$
- Small package

SOT-23

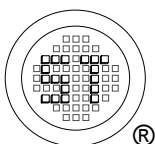


1.BASE 2.EMITTER 3.COLLECTOR

SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	60	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	150	mA
Base Current	$I_B$	30	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-55 to +125	$^\circ\text{C}$



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001:2004  
Certificate No. 71116



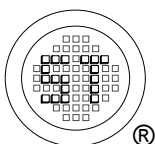
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## Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE}=6\text{V}$ , $I_C=2\text{mA}$	O	$h_{FE}$	70	-	140	-
	Y	$h_{FE}$	120	-	240	-
	G	$h_{FE}$	200	-	400	-
	L	$h_{FE}$	350	-	700	-
Collector Cutoff Current at $V_{CB}=60\text{V}$		$I_{CBO}$	-	-	0.1	$\mu\text{A}$
Emitter Cutoff Current at $V_{EB}=5\text{V}$		$I_{EBO}$	-	-	0.1	$\mu\text{A}$
Collector Saturation Voltage at $I_C=100\text{mA}$ , $I_B=10\text{mA}$		$V_{CE(sat)}$	-	-	0.25	V
Transition Frequency at $V_{CE}=10\text{V}$ , $I_C=1\text{mA}$		$f_T$	80	-	-	MHz
Collector Output Capacitance at $V_{CB}=10\text{V}$ , $f=1\text{MHz}$		$C_{ob}$	-	2	3.5	pF
Noise Figure at $V_{CE}=6\text{V}$ , $I_C=0.1\text{mA}$ , $f=1\text{KHz}$ , $R_g=10\text{K}\Omega$		NF	-	1	10	dB



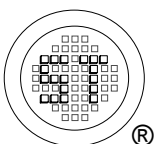
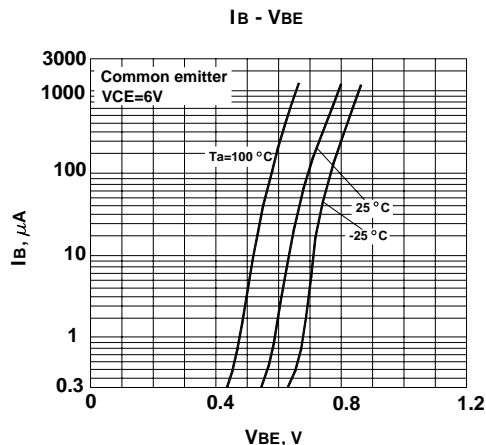
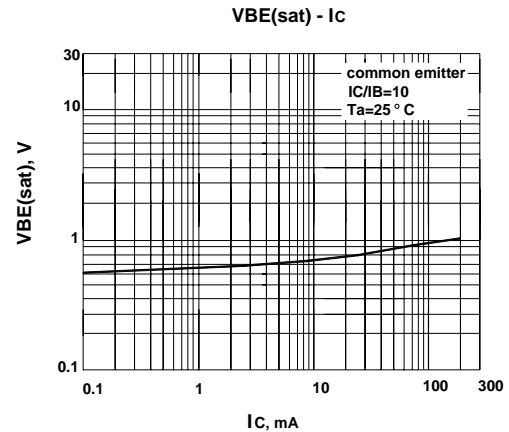
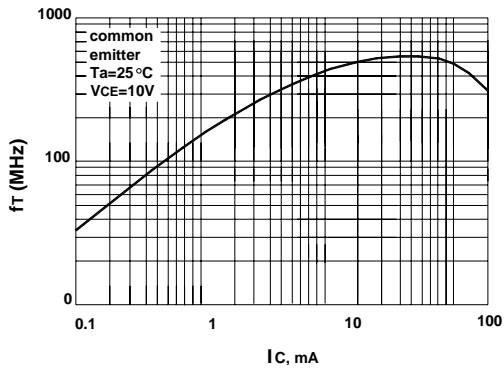
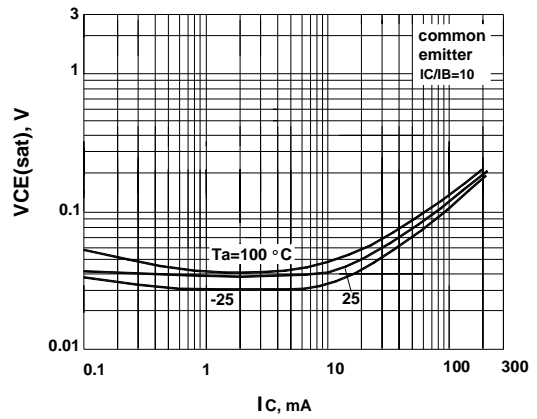
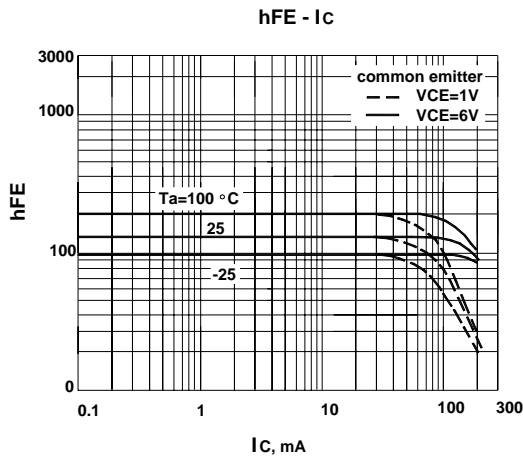
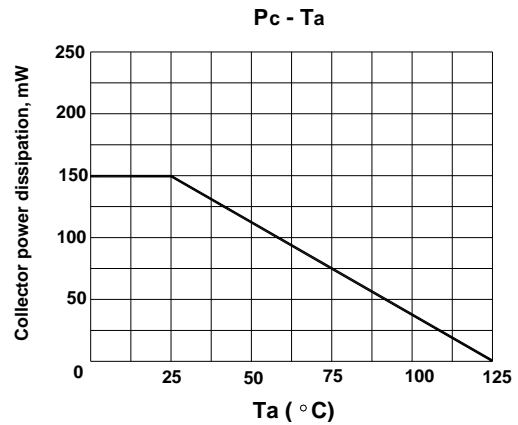
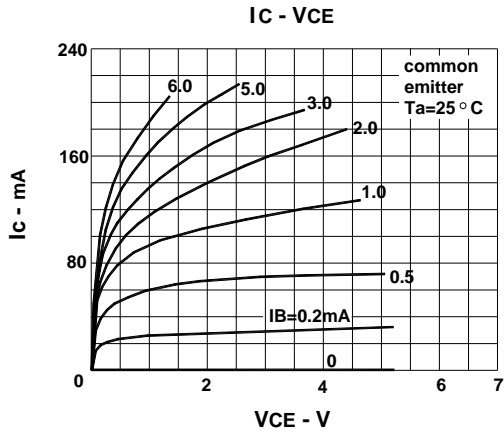
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