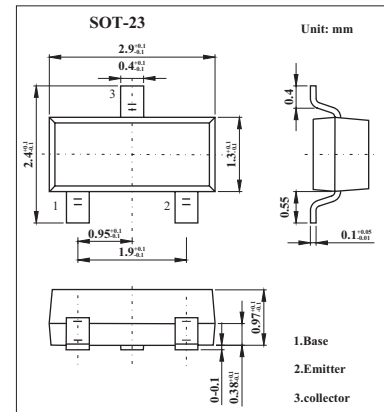


## Silicon NPN Epitaxial Type Transistor

### 2SC2712

#### ■ Features

- High voltage and high current:  $V_{CE0} = 50\text{ V}$ ,  $I_C = 150\text{ mA}$  (max)
- Excellent hFE linearity :  $h_{FE}(I_C = 0.1\text{ mA}) / h_{FE}(I_C = 2\text{ mA}) = 0.95$  (typ.)
- High hFE:  $h_{FE} = 70 \sim 700$
- Low noise:  $NF = 1\text{ dB}$  (typ.),  $10\text{ dB}$  (max)



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	60	V
Collector-emitter voltage	$V_{CE0}$	50	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_C$	150	mA
Base current	$I_B$	30	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to +125	$^\circ\text{C}$

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cut-off current	$I_{CB0}$	$V_{CB} = 60\text{ V}$ , $I_E = 0$			0.1	$\mu\text{ A}$
Emitter cut-off current	$I_{EB0}$	$V_{EB} = 5\text{ V}$ , $I_C = 0$			0.1	$\mu\text{ A}$
DC current gain	$h_{FE}$	$V_{CE} = 6\text{ V}$ , $I_C = 2\text{ mA}$	70		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$		0.1	0.25	V
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$		2	3.5	pF
Noise figure	NF	$V_{CE} = 6\text{ V}$ , $I_C = 0.1\text{ mA}$ , $f = 1\text{ KHz}$ , $R_G = 10\text{ K}\Omega$		1	10	dB
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$	80			MHz

#### ■ hFE Classification

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

## 2SC2712

■ Typical Characteristics

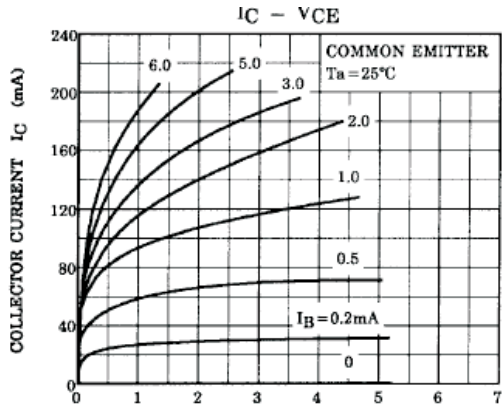


Fig.1 Collector Emitter Voltage

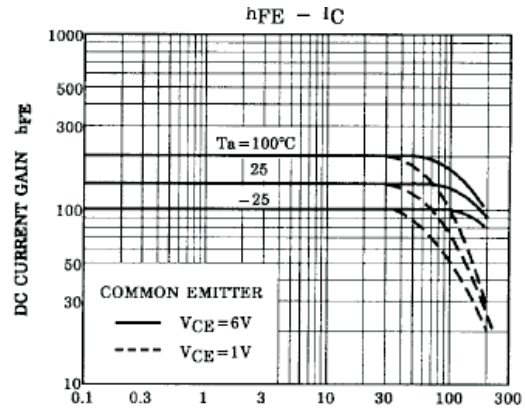


Fig.2 Collector Current

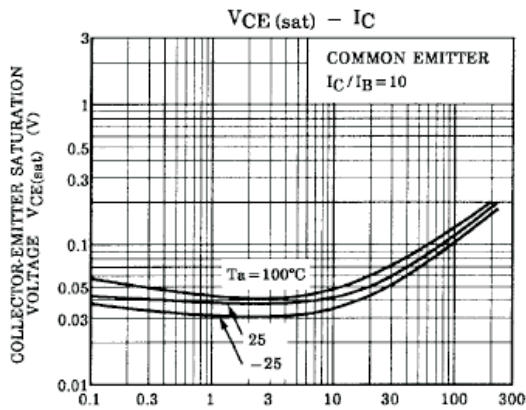


Fig.3 Collector Current

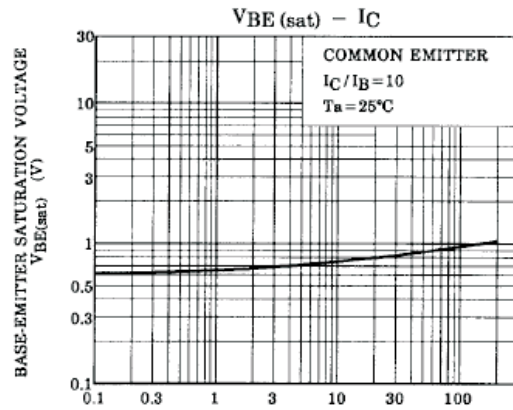


Fig.4 Collector Current

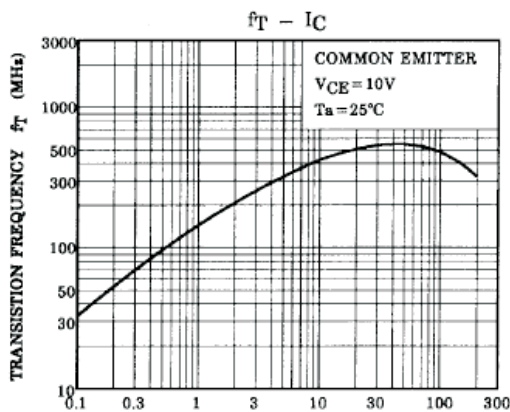


Fig.5 Collector Current

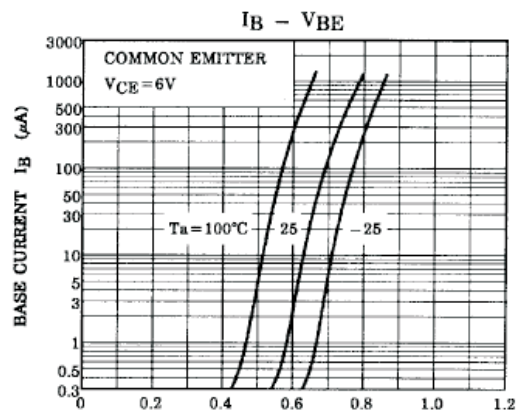


Fig.6 Base Emitter Voltage

2SC2712

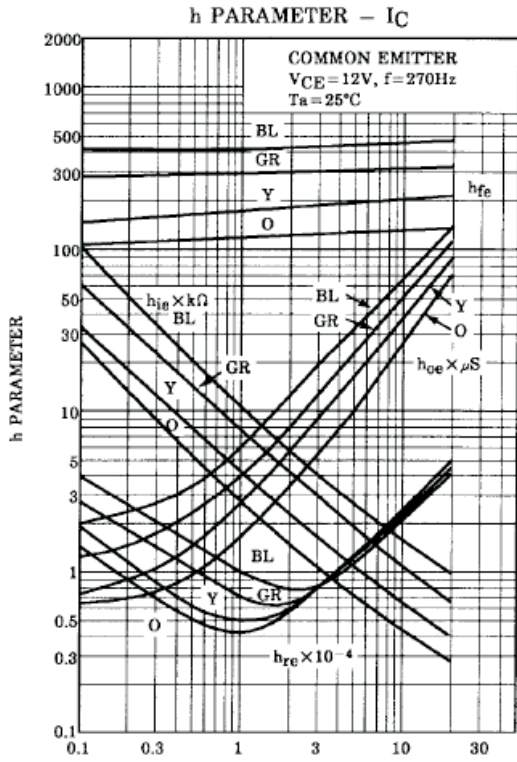


Fig.7 Collector Current

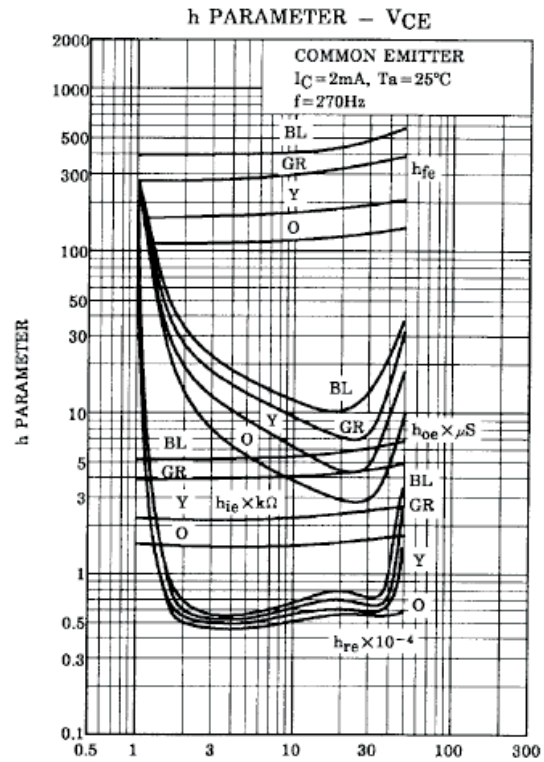


Fig.8 Collector Emitter Voltage

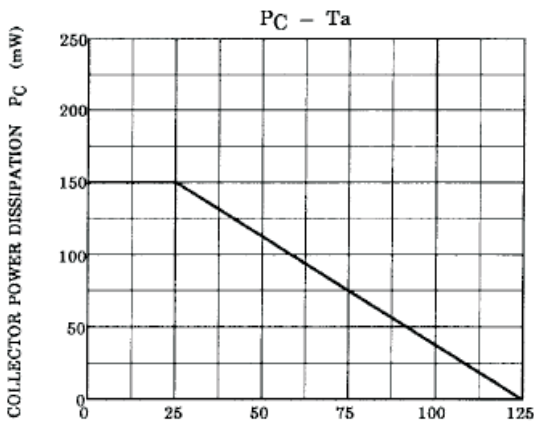


Fig.9 Ambient Temperature