

NPN Transistors

2SC2713-HF

■ Features

- High voltage: $V_{CE0} = 120\text{ V}$
- High h_{FE} : $h_{FE} = 200\sim 700$
- Low noise: $NF = 1\text{ dB (typ.)}$, 10 dB (max)
- Small package
- Complementary to 2SA1163-HF
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish

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

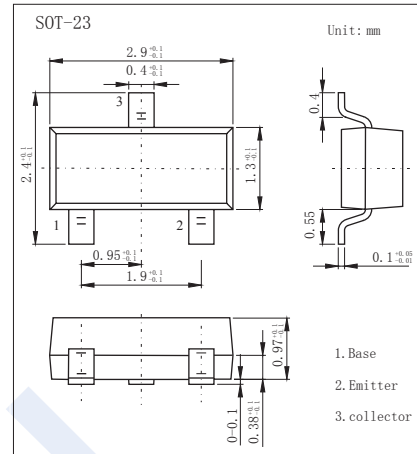
Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	120	V
Collector - Emitter Voltage	V_{CEO}	120	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	100	mA
Base Current	I_B	20	
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 125	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100\ \mu\text{A}$, $I_E = 0$	120			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1\ \text{mA}$, $I_B = 0$	120			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}$, $I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 120\ \text{V}$, $I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\ \text{V}$, $I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\ \text{mA}$, $I_B = 1\ \text{mA}$			0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\ \text{mA}$, $I_B = 1\ \text{mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 6\ \text{V}$, $I_C = 2\ \text{mA}$	200		700	
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
Collector output capacitance	C_{ob}	$V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		3		pF
Transition frequency	f_T	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$		100		MHz

■ Classification of h_{FE}

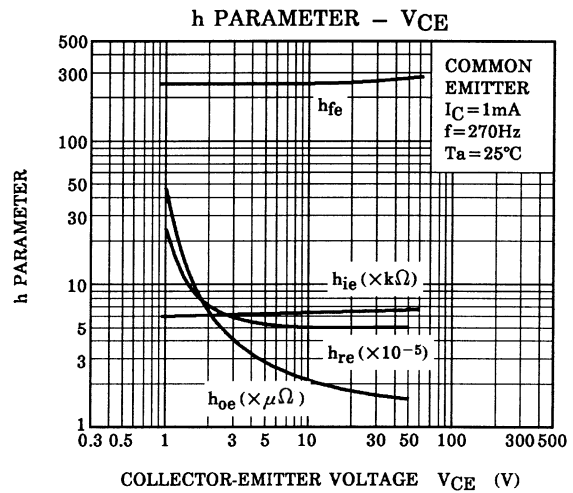
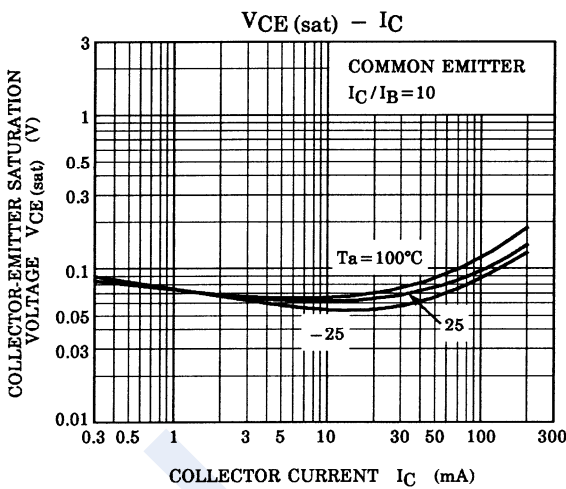
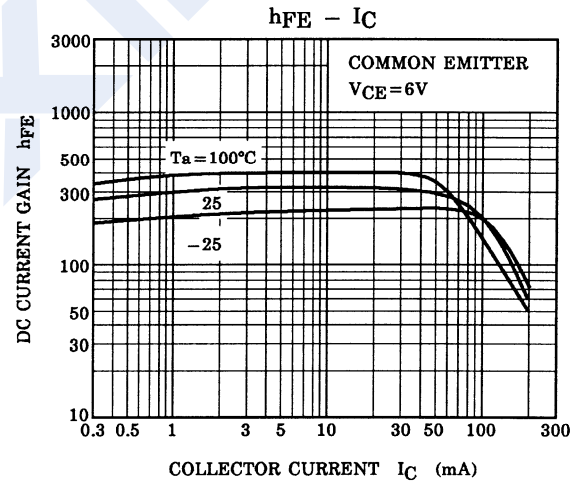
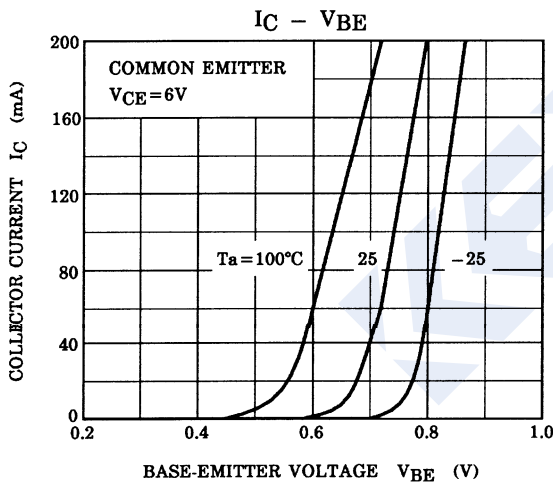
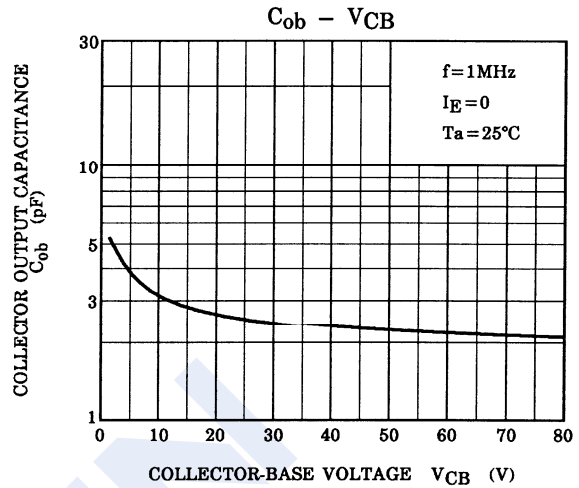
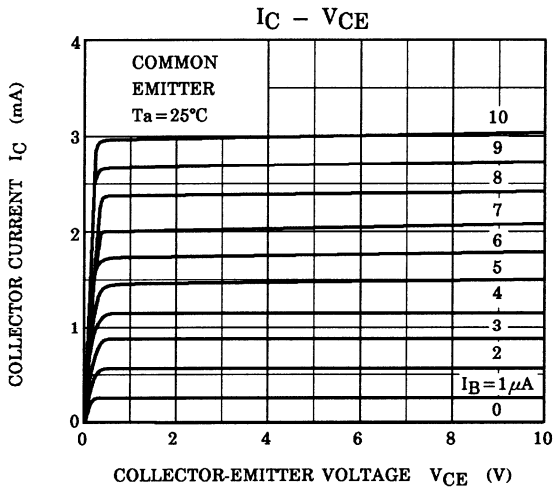
Type	2SC2713-G-HF	2SC2713-L-HF
Range	200-400	350-700
Marking	DG _F	DL _F



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■ Typical Characteristics



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