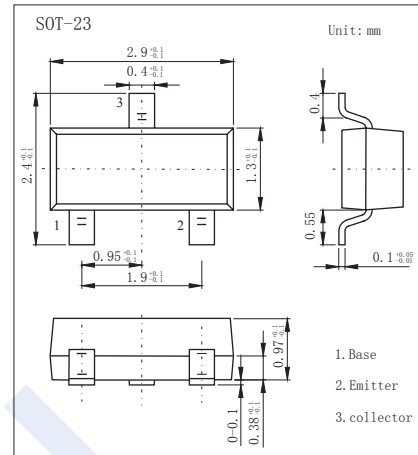


NPN Transistors

2SD780-HF

■ Features

- High DC current gain
- Complimentary to 2SB736-HF
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	60	V
Collector - Emitter Voltage	V _{CE0}	60	
Emitter - Base Voltage	V _{EB0}	5	
Collector Current - Continuous	I _c	300	mA
Collector Power Dissipation	P _c	200	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	I _c = 100 μA, I _E = 0	60			V
Collector- emitter breakdown voltage	V _{CE0}	I _c = 1 mA, I _B = 0	60			
Emitter - base breakdown voltage	V _{EB0}	I _E = 100 μA, I _c = 0	5			
Collector-base cut-off current	I _{CB0}	V _{CB} = 50 V, I _E = 0			0.1	μA
Emitter cut-off current	I _{EB0}	V _{EB} = 5V, I _c =0			0.1	
Collector-emitter saturation voltage (Note.1)	V _{CE(sat)}	I _c =300 mA, I _B =30mA		0.15	0.6	V
Base - emitter saturation voltage (Note.1)	V _{BE(sat)}	I _c =300 mA, I _B =30mA			1.2	
Base - emitter voltage (Note.1)	V _{BE}	V _{CE} = 6V, I _c =10mA	600	645	700	mV
DC current gain (Note.1)	h _{FE(1)}	V _{CE} = 1V, I _c = 50mA	110	200	400	
	h _{FE(2)}	V _{CE} = 2V, I _c = 300mA	30			
Collector output capacitance	C _{ob}	V _{CB} = 6V, I _E =0, f=1MHz		7		pF
Transition frequency	f _T	V _{CE} = 6V, I _E = -10mA		140		MHz

Note.1: Pulse test : Pulse width ≤350μs, Duty Cycle ≤2%.

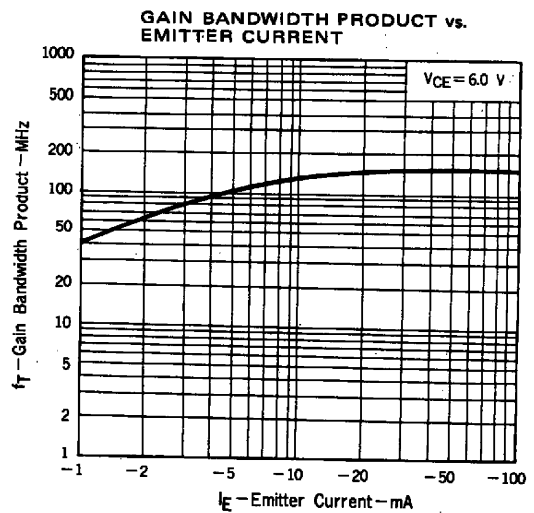
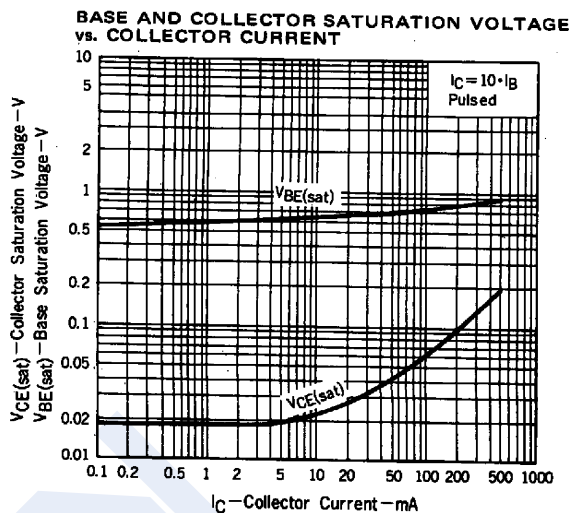
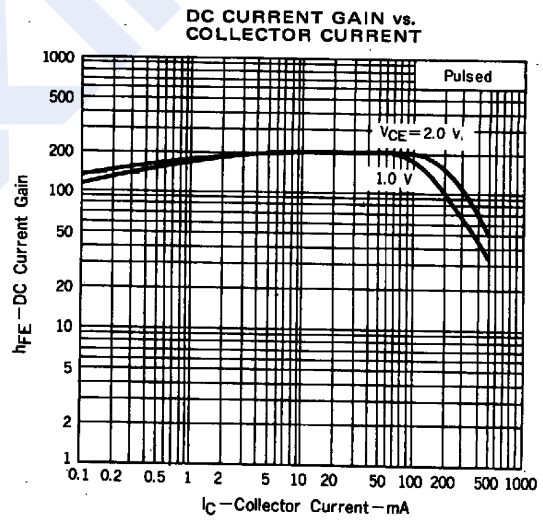
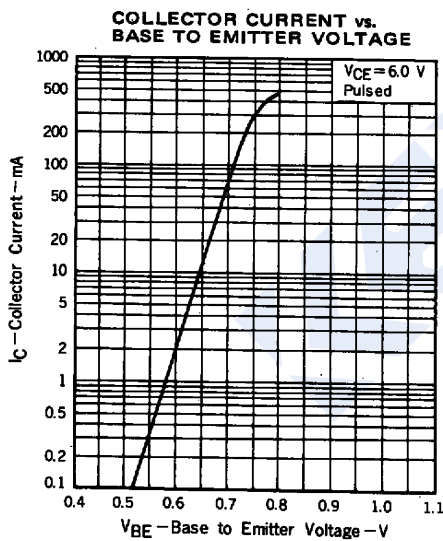
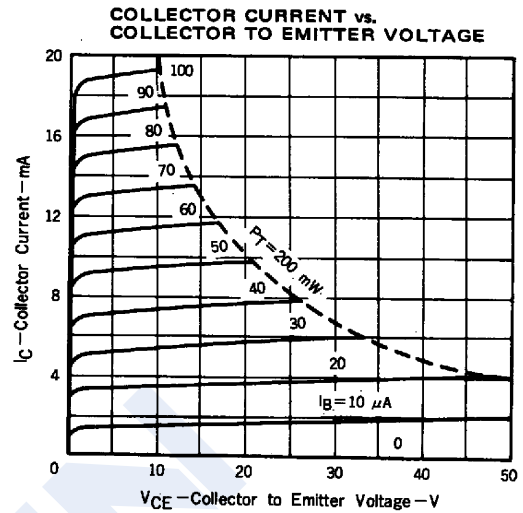
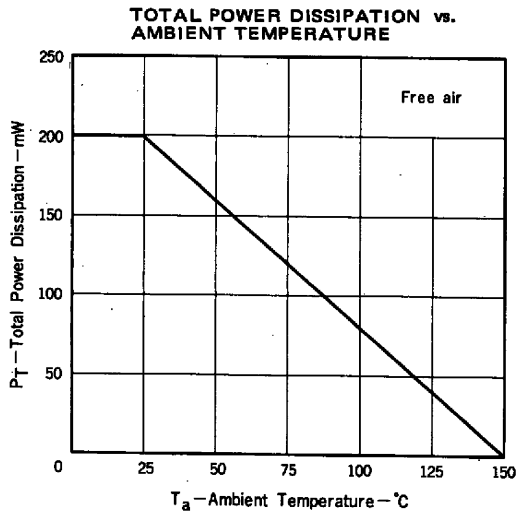
■ Classification of h_{FE(1)}

Type	2SD780-DW1-HF	2SD780-DW2-HF	2SD780-DW3-HF	2SD780-DW4-HF	2SD780-DW5-HF
Range	110-180	135-220	170-270	200-320	250-400
Marking	DW1 _F	DW2 _F	DW3 _F	DW4 _F	DW5 _F

NPN Transistors

2SD780-HF

■ Typical Characteristics



NPN Transistors

2SD780-HF

■ Typical Characteristics

