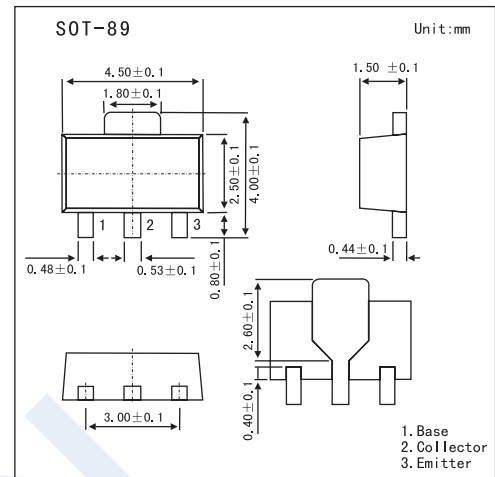


High Frequency Amplifier Applications

2SC3803



■ Features

- High Transition Frequency: $f_T = 200\text{MHz}$ (typ.)
- Low Collector Output Capacitance: $C_{ob} = 3.5\text{pF}$ (typ.)
- Complementary to 2SA1483

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

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	500	mW
	P_C^*	1.0	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

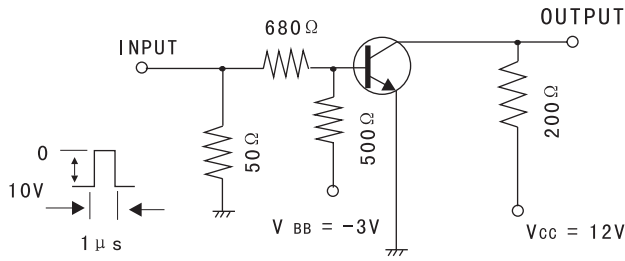
* Mounted on a ceramic substrate (250 mm² x 0.8t)

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector Cut-off Current	I_{CBO}	$V_{CB} = 45\text{V}$, $I_E = 0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 1\text{V}$, $I_C = 10\text{mA}$	40		240	
		$V_{CE} = 3\text{V}$, $I_C = 200\text{mA}$	20			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}$, $I_B = 10\text{mA}$			0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}$, $I_B = 10\text{mA}$			1	V
Transition Frequency	f_T	$V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$	100	200		MHz
Input Impedance (real part)	$R_{e(hie)}$	$V_{CB} = 10\text{V}$, $I_E = -10\text{mA}$, $f = 200\text{MHz}$			120	Ω
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		3.5	5	pF
Turn-On Time	t_{on}	See Test Circuit.		40		ns
Storage Time	t_{stg}			250		ns
Fall Time	t_f			30		ns

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■ Test Circuit

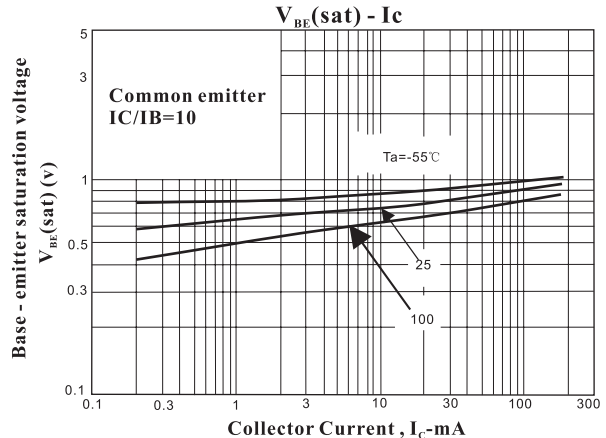
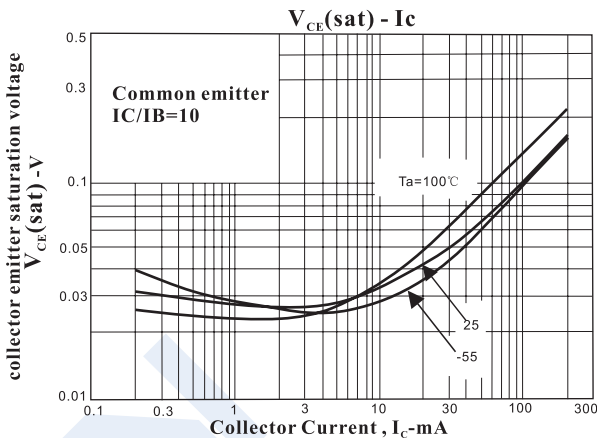
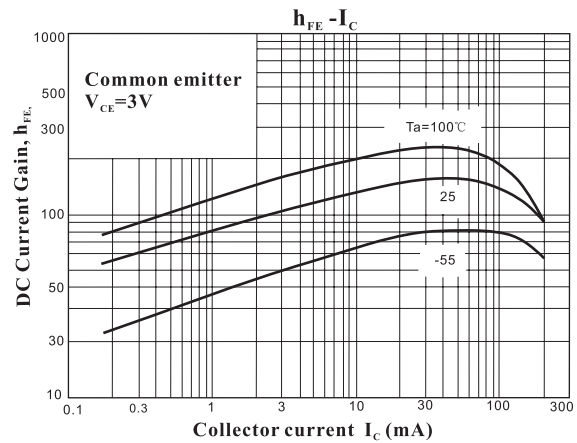
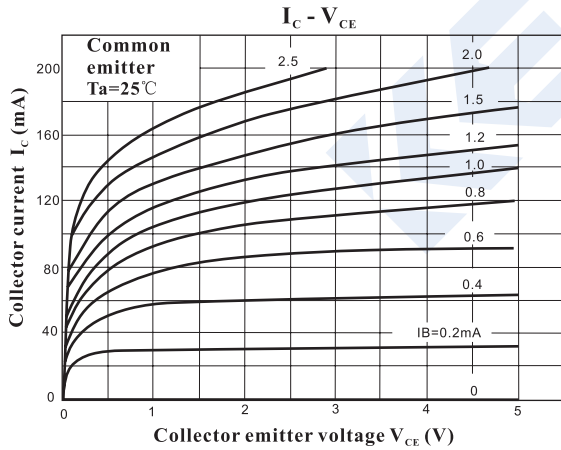


D. C. \leq 2%

■ hFE Classification

Marking	V		
Rank	R	O	Y
hFE	40 ~ 80	70 ~ 140	120 ~ 240

■ Electrical Characteristics Curves



2SC3803

