

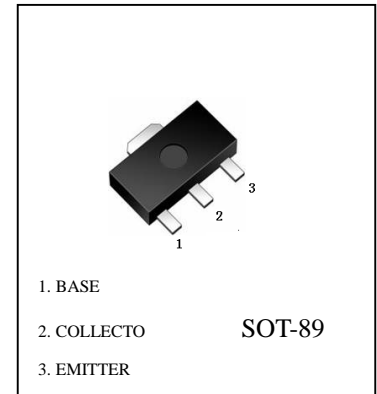
FEATURES

- Small flat package.
- Low saturation voltage $V_{CE(sat)} = -0.5V$
- High speed switching time
- $PC = 1.0$ to $2.0W$

z High saturation current capability

Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	2	A
Peak Base Current	I_{BM}	0.4	A
Collector Power dissipation	PC	1	W
Storage Temperature	T_{stg}	-55to +150	$^\circ\text{C}$

2SC1766 (NPN)

ELECTRICAL CHARACTERISTICS (@ $T_a = 25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 50V, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			0.1	μA
DC current gain	h_{FE}	$V_{CE} = 2V, I_C = 500\text{mA}$	70		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 50\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1A, I_B = 50\text{mA}$			1.2	mV
Transition frequency	f_T	$V_{CE} = 2V, I_C = 0.5A$ $f = 100\text{MHz}$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1\text{MHz}$		40		pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	Y
Range	82-180	120-270	180-390
Marking	P1766	Q1766	Y1766

2SC1766 Typical Characteristics

Figure 1. $V_{CE} - I_C$

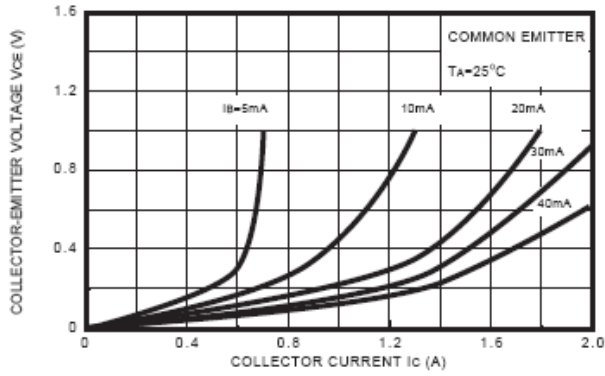


Figure 2. $V_{CE} - I_C$

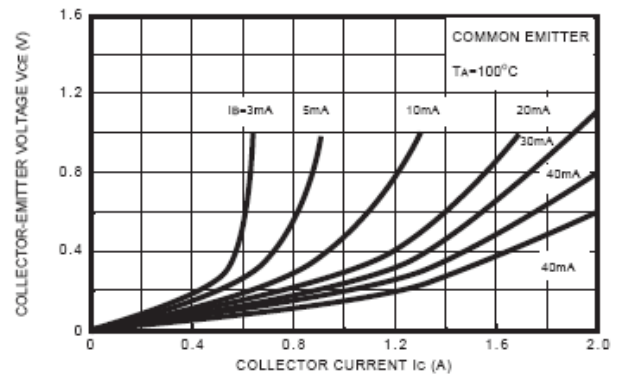


Figure 3. $V_{CE} - I_C$

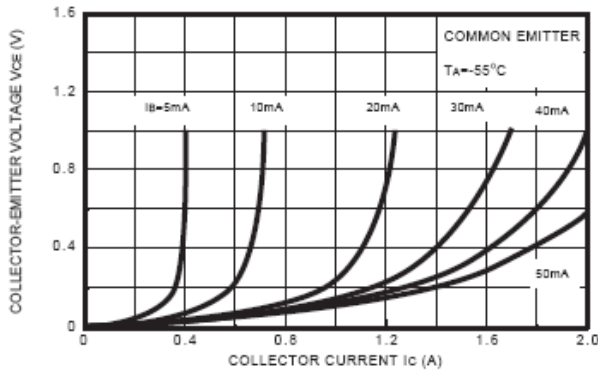


Figure 4. $h_{FE} - I_C$

