

NPN Epitaxial Transistor

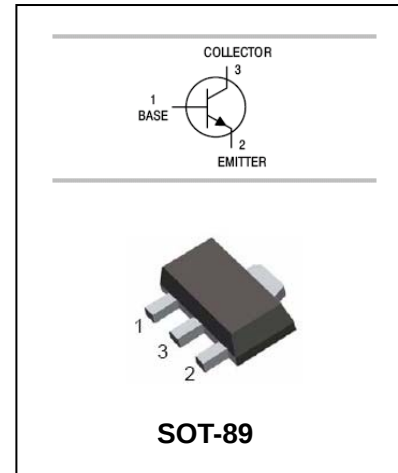
2SC1766

FEATURES

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



Lead-free



APPLICATIONS

- Power amplifier

ORDERING INFORMATION

Type No.	Marking	Package Code
2SC1766	P1766/Q1766/Y1766	SOT-89

MAXIMUM RATING @ $T_a = 25^\circ C$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	2	A
I_{CM}	Peak Collector Current	2	A
I_{BM}	Peak Base Current	0.4	A
P_D	Total Power Dissipation	1000	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^\circ C$

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ELECTRICAL CHARACTERISTICS @ Ta=25°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}	$V_{CE}=2V, I_C=500mA$	82		390	
		$V_{CE}=2V, I_C=2A$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1A, I_B=50mA$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1A, I_B=50mA$			1.2	mV
Transition frequency	f_T	$V_{CE}=2V, I_C=0.5A$ $f=100MHz$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V, I_E=0, f=1MHz$		40		pF

CLASSIFICATION OF h_{FE}

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

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Figure 1. $V_{CE} - I_C$

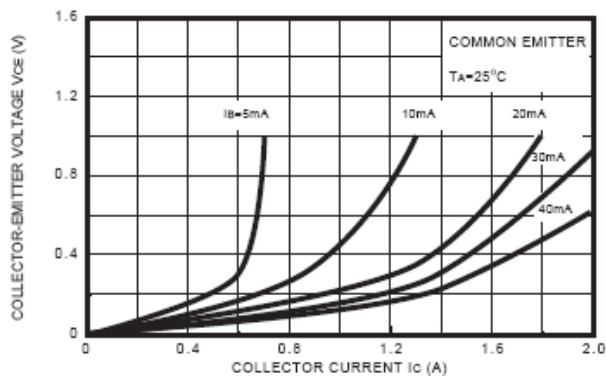


Figure 2. $V_{CE} - I_C$

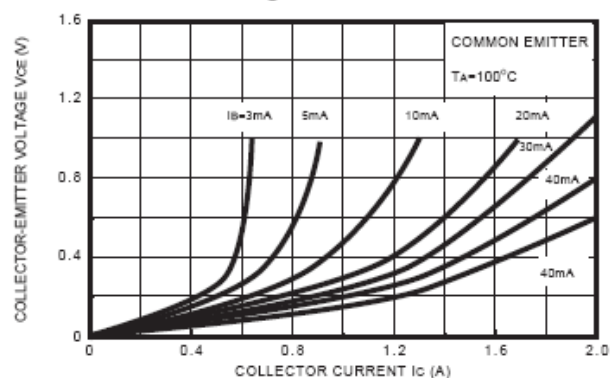


Figure 3. $V_{CE} - I_C$

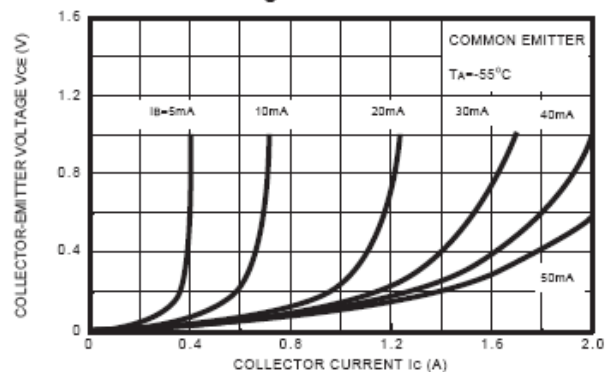
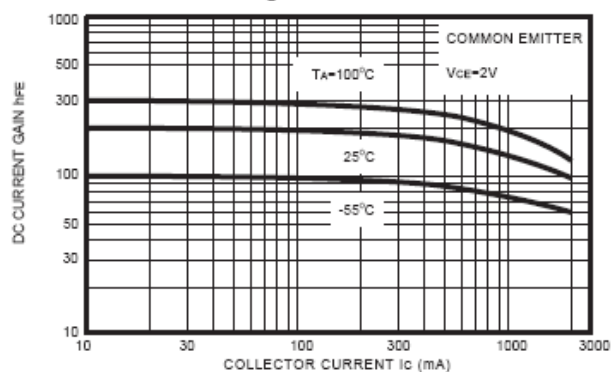


Figure 4. $h_{FE} - I_C$



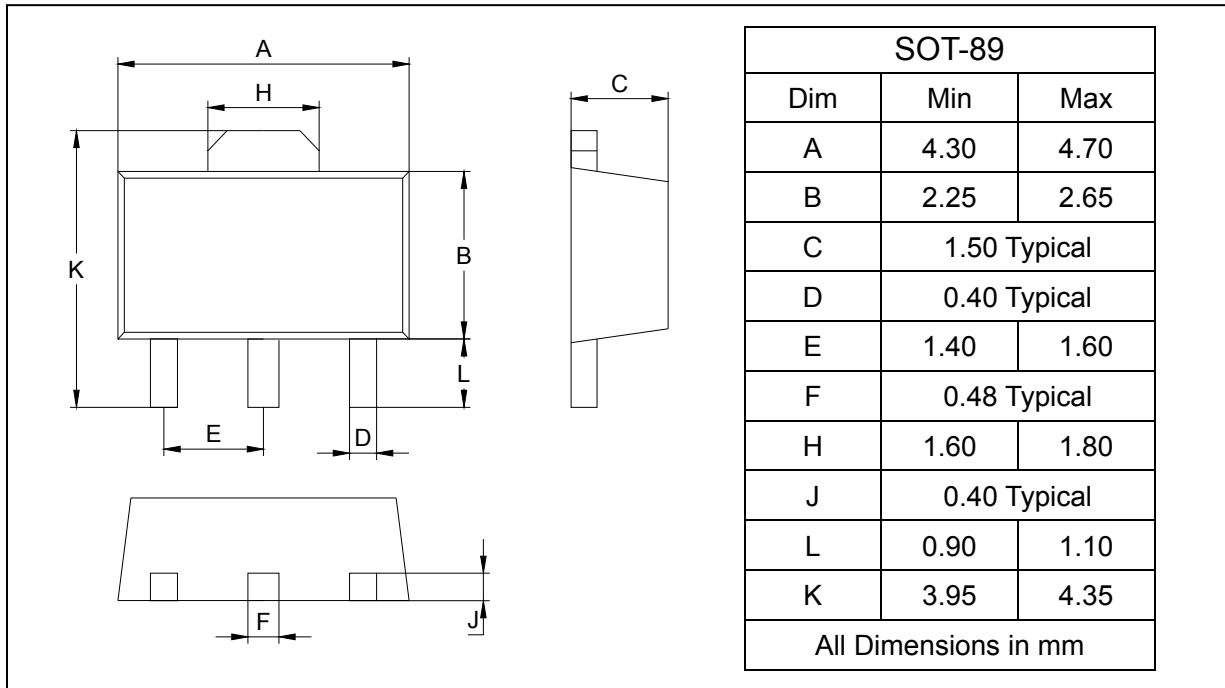
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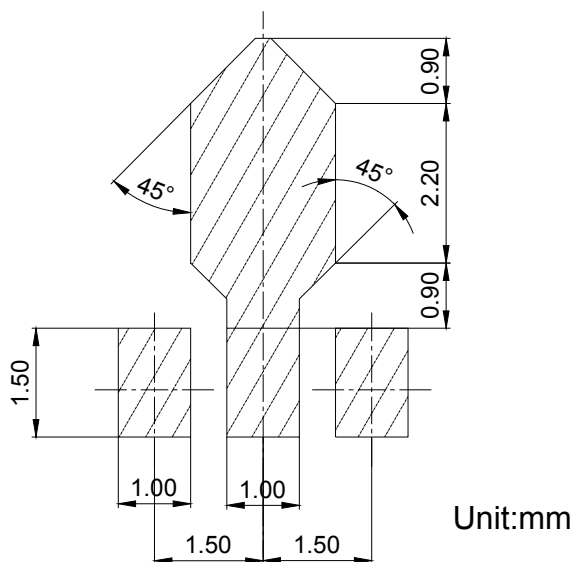
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SC1766	SOT-89	1000/Tape&Reel