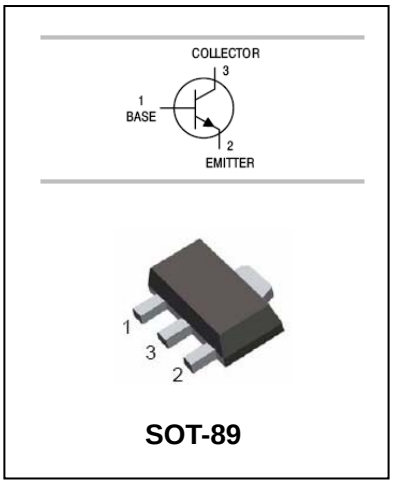
NPN Epitaxial Transistor **2SC1766**

FEATURES

Lead-free

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



SOT-89

APPLICATIONS

- Power amplifier

ORDERING INFORMATION

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

MAXIMUM RATING @ Ta=25℃ 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	℃

NPN Epitaxial Transistor **2SC1766**

ELECTRICAL CHARACTERISTICS @ Ta=25℃ 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℃ unless otherwise specified

Figure 1. V_{CE} - I_C

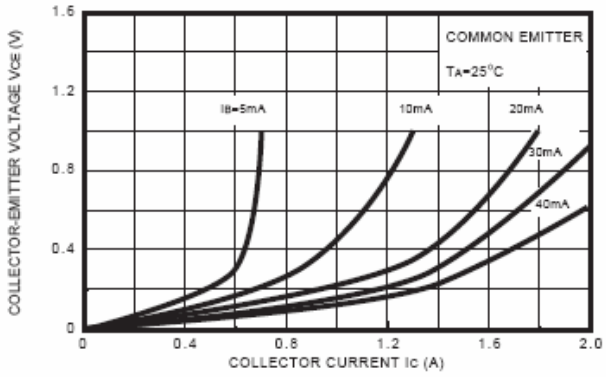


Figure 2. V_{CE} - I_C

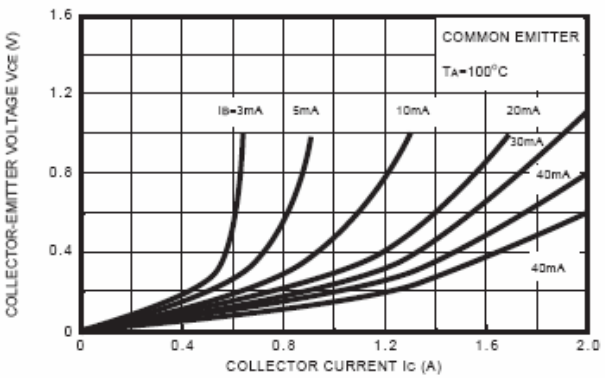


Figure 3. V_{CE} - I_C

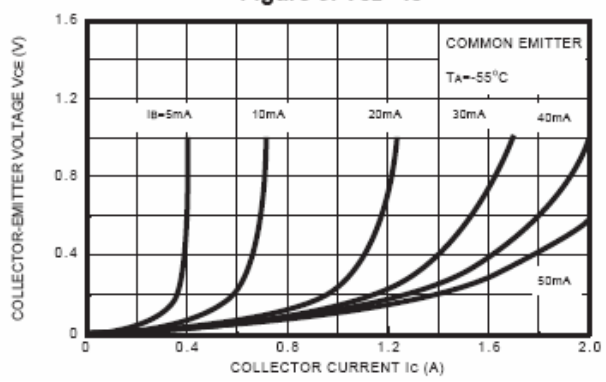
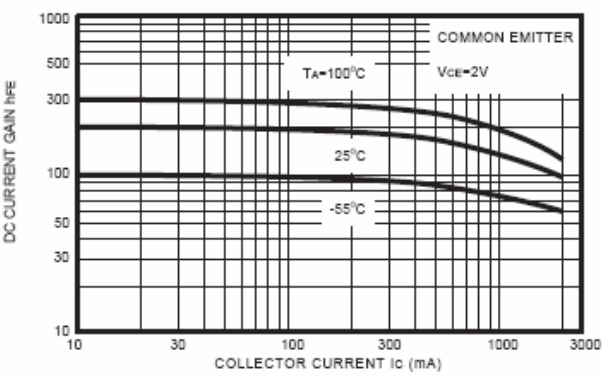


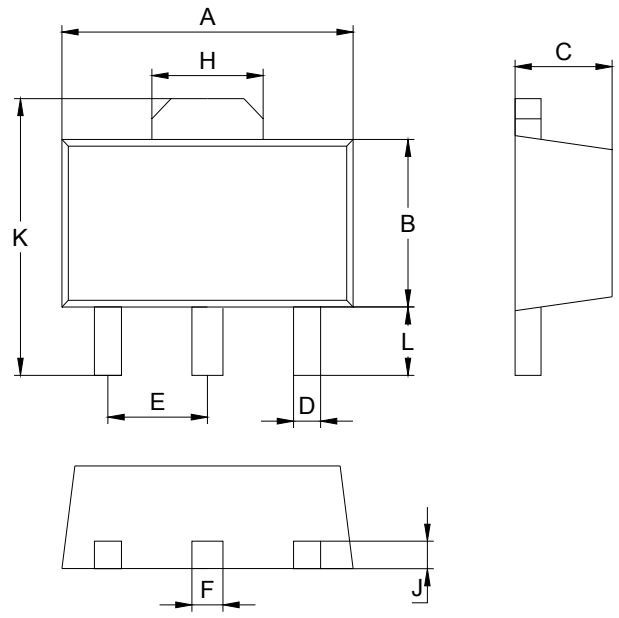
Figure 4. h_{FE} - I_C



NPN Epitaxial Transistor **2SC1766**

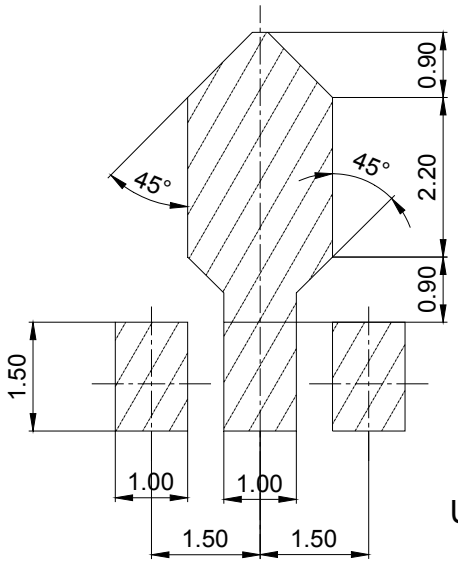
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

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