

## SOT-89 Plastic-Encapsulate Transistors

### Features

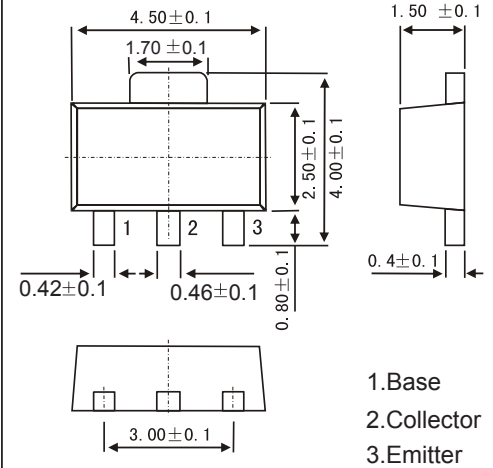
- Collector Current Capability  $I_C=2A$
- Collector Emitter Voltage  $V_{CEO}=32V$
- High-speed switching.
- Complements to 2SB1188
- NPN Transistors

### MECHANICAL DATA

- Case style: SOT-89 molded plastic
- Mounting position: any

SOT-89

Unit:mm



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	40	V
Collector - Emitter Voltage	$V_{CEO}$	32	
Emitter - Base Voltage	$V_{EBO}$	5	
Collector Current - Continuous	$I_C$	2	A
Collector Power Dissipation	$P_C$	0.5	W
Junction Temperature	$T_J$	150	°C
Storage Temperature range	$T_{stg}$	-55 to 150	

### PACKAGE INFORMATION

Device	Package	Shipping
2SD1766	SOT-89	1000/Tape&Reel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_C=100\mu A, I_E=0$	40			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C=1mA, I_B=0$	32			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E=100\mu A, I_C=0$	5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB}=20V, I_E=0$			1	uA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=200mA$			0.8	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C=2A, I_B=200mA$			1.2	
DC current gain	$h_{FE}$	$V_{CE}=3V, I_C=500mA$	82		390	
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$		30		pF
Transition frequency	$f_T$	$V_{CE}=5V, I_E=50mA, f=100MHz$		100		MHz

### Classification of $h_{FE}$

Type	2SD1776-P	2SD1776-Q	2SD1776-R
Range	82-180	120-270	180-390
Marking	DBP	DBQ	DBR



# RATINGS AND CHARACTERISTIC CURVES

## Typical Characteristics

