

## SOT-89-3L Plastic-Encapsulate Transistors

### 2SC1766U TRANSISTOR (NPN)

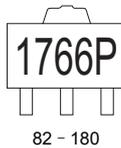
#### FEATURES

- Small Flat Package
- High Speed Switching Time
- Low Collector-emitter saturation voltage

#### APPLICATIONS

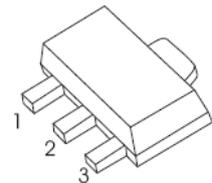
- Power Amplifier

#### MARKING:



#### SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



#### MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	50	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	2	A
P <sub>C</sub>	Collector Power Dissipation	500	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	250	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

#### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA, I <sub>E</sub> =0	50			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	50			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100μA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =50V, I <sub>E</sub> =0			0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			0.1	μA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =0.5A	82		390	
	h <sub>FE(2)*</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =2A	20			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =50mA			0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =50mA			1.2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =0.5A, f=100MHz		120		MHz

#### CLASSIFICATION OF h<sub>FE(1)</sub>

RANK	P	Q	Y
RANGE	82 - 180	120 - 270	180 - 390

\*Pulse test: pulse width ≤300μs, duty cycles ≤ 2.0%.

## Typical Characteristics

