



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

**2SD1766** TRANSISTOR (NPN)

**FEATURES**

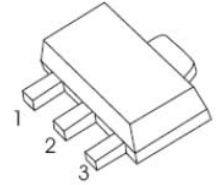
- Low  $V_{CE(sat)}$ .  $V_{CE(sat)}=0.16V(Typ.)(I_C/I_B=2A/0.2A)$
- Complements to 2SB1188

**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	32	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	2	A
P <sub>C</sub>	Collector dissipation	500	mW
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C

**SOT-89-3L**

1. BASE
2. COLLECTOR
3. EMITTER



**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> =50μA, I <sub>E</sub> =0	40			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	32			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =50μA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0			1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			1	μA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =3V, I <sub>C</sub> =500mA	82		390	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =2A, I <sub>B</sub> =0.2A			0.8	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =50mA, f=100MHz		100		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		30		pF

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

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	DBP	DBQ	DBR

# Typical Characteristics

# 2SD1766

