

### 2SD1766 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$$P_{CM}: 0.5 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

$$I_{CM}: 2 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 40 \text{ V}$$

Operating and storage junction temperature range

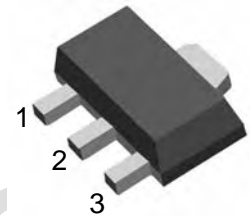
$$T_J, T_{stg}: -55^\circ\text{C to } +150^\circ\text{C}$$

#### SOT-89

1. BASE

2. COLLECTOR

3. EMITTER



#### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu\text{A}, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=3\text{V}, I_C=500\text{mA}$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2\text{A}, I_B=0.2\text{A}$			0.8	V
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=50\text{mA}, f=100\text{MHz}$		100		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		30		pF

#### CLASSIFICATION OF $h_{FE(1)}$

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