

**NPN Transistors**

—NPN Silicon—

**■■ APPLICATION:** Low Voltage Large Current Drivers.

**■■ MAXIMUM RATINGS** (Ta=25°C)

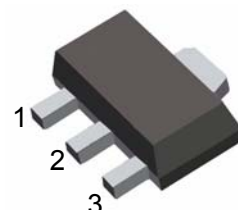
PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	VCBO	40	V
Collector-emitter voltage	VCEO	30	V
Emitter-base voltage	VEBO	5	V
Collector current	Ic	3	A
Collector Power Dissipation	Pc	1	W
Junction Temperature	Tj	150	°C
Storage Temperature Range	Tstg	-55-150	°C

**SOT-89**

1. BASE

2. COLLECTOR

3. EMITTER


**■■ ELECTRICAL CHARACTERISTICS** (Ta=25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Collector-Base Breakdown Voltage	BVcbo	40			V	Ic=1 mA Ie=0
Collector-Emitter Breakdown Voltage	BVceo	30			V	Ic=10 mA Ib=0
Emitter-Base Breakdown Voltage	BVebo	5			V	Ie=1 mA Ic=0
Collector Cut-off Current	Icbo			0.1	uA	Vcb=30 V Ie=0
Emitter Cut-off Current	Iebo			0.1	uA	Veb=3 V Ic=0
Collector-Emitter Saturation Voltage	Vce(sat)			0.5 *	V	Ic=2A Ib=0.2A
Base-Emitter Saturation Voltage	Vbe(sat)			2.0	V	Ic=2A Ib=0.2A
DC Current Gain	H <sub>FE</sub>	60		400	β	Vce=2 V Ic=1A
Gain bandwidth product	f <sub>T</sub>	50	80		MHz	Vce=5 V Ic=100mA
Common Base Output Capacitance	Cob		55		pF	Vcb=10 V Ie=0 f=1.0MHz

**■■ H<sub>FE</sub> Classification And Marking**

Print Mark	HR	HQ	HP	HE
Classification	R	Q	P	E
h <sub>FE</sub>	60-120	100-200	160-320	200-400