

SMALL SIGNAL NPN TRANSISTOR

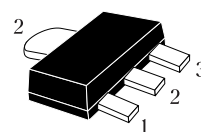
PRELIMINARY DATA

Type	Marking
BF620	620

- SILICON EPITAXIAL PLANAR NPN HIGH VOLTAGE TRANSISTOR
- MINIATURE SOT-89 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- THE PNP COMPLEMENTARY TYPE IS BF621

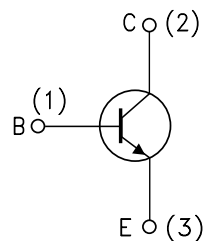
APPLICATIONS

- VIDEO AMPLIFIER CIRCUITS (RGB CATHODE CURRENT CONTROL)
- TELEPHONE WIRELINE INTERFACE (HOOK SWITCHES, DIALER CIRCUITS)



SOT-89

INTERNAL SCHEMATIC DIAGRAM



SC06960

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	300	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	300	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	5	V
I_C	Collector Current	100	mA
I_{CM}	Collector Peak Current	200	mA
P_{tot}	Total Dissipation at $T_C = 25\text{ }^{\circ}\text{C}$	1.2	W
T_{stg}	Storage Temperature	-65 to 150	$^{\circ}\text{C}$
T_j	Max. Operating Junction Temperature	150	$^{\circ}\text{C}$

BF620

THERMAL DATA

R _{thj-amb} •	Thermal Resistance Junction-Ambient	Max	104.1	°C/W
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• Device mounted on a PCB area of 1 cm²

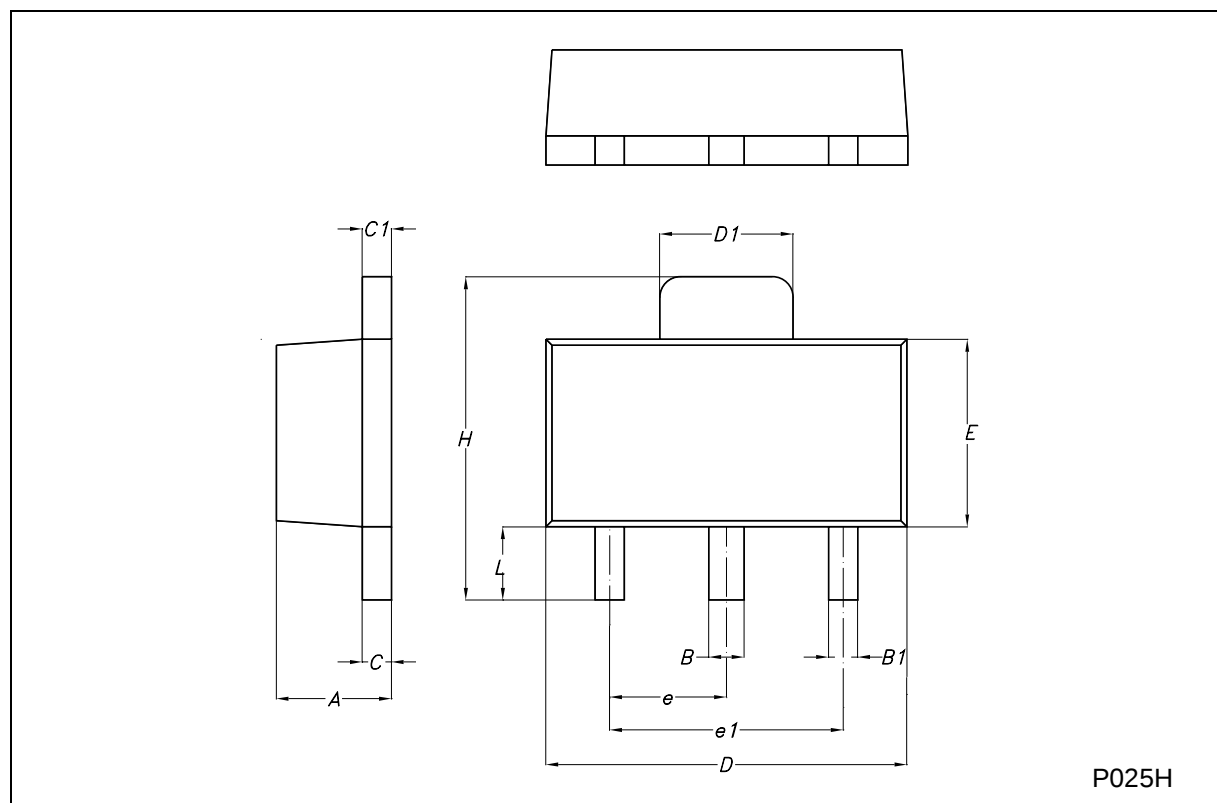
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 200 V V _{CB} = 200 V V _{CB} = 300 V T _C = 150 °C			10 10 100	nA μA μA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			50	nA
V _{(BR)CEO} *	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = 10 mA	300			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E = 100 μA	5			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 30 mA I _B = 5 mA			0.6	V
V _{BE(sat)} *	Base-Emitter Saturation Voltage	I _C = 30 mA I _B = 5 mA			1.2	V
h _{FE} *	DC Current Gain	I _C = 25 mA V _{CE} = 20 V	50			
f _T	Transition Frequency	I _C = 15 mA V _{CE} = 10 V f = 20 MHz	60			MHz
C _{CBO}	Collector-Base Capacitance	I _E = 0 V _{CB} = 10 V f = 1 MHz		6		pF
C _{EBO}	Emitter-Base Capacitance	I _C = 0 V _{EB} = 2 V f = 1 MHz		22		pF

* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %

SOT-89 MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	1.4		1.6	55.1		63.0
B	0.44		0.56	17.3		22.0
B1	0.36		0.48	14.2		18.9
C	0.35		0.44	13.8		17.3
C1	0.35		0.44	13.8		17.3
D	4.4		4.6	173.2		181.1
D1	1.62		1.83	63.8		72.0
E	2.29		2.6	90.2		102.4
e	1.42		1.57	55.9		61.8
e1	2.92		3.07	115.0		120.9
H	3.94		4.25	155.1		167.3
L	0.89		1.2	35.0		47.2



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