

SMALL SIGNAL NPN TRANSISTOR

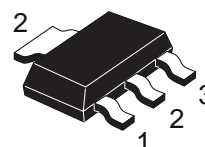
PRELIMINARY DATA

Type	Marking
BF720	720

- SILICON EPITAXIAL PLANAR NPN HIGH VOLTAGE TRANSISTOR
- SOT-223 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- THE PNP COMPLEMENTARY TYPE IS BF721

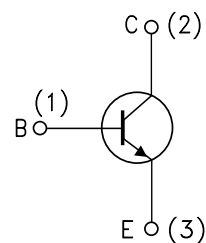
APPLICATIONS

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



SOT-223

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 $T_C = 25\text{ }^{\circ}\text{C}$	1.4	W
T_{stg}	Storage Temperature	-65 to 150	$^{\circ}\text{C}$
T_j	Max. Operating Junction Temperature	150	$^{\circ}\text{C}$

BF720

THERMAL DATA

$R_{thj-amb}$ •	Thermal Resistance Junction-Ambient	Max	89.3	°C/W
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- Device mounted on a PCB area of 1 cm²

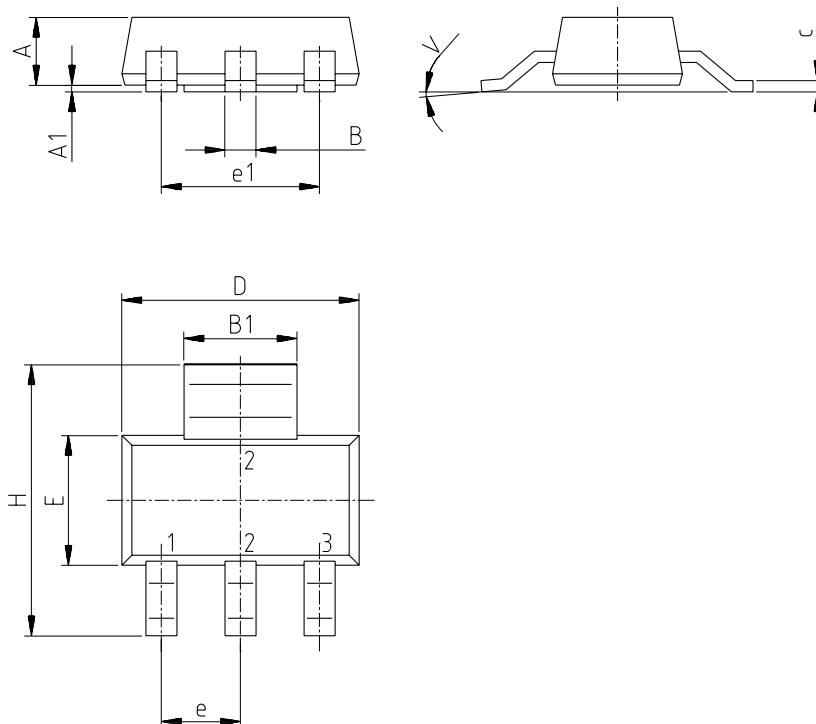
ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = 200\text{ V}$ $V_{CB} = 200\text{ V}$ $T_C = 150\text{ °C}$ $V_{CB} = 300\text{ V}$			10 10 100	nA μA μA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			50	nA
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ($I_B = 0$)	$I_C = 10\text{ mA}$	300			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_C = 0$)	$I_E = 100\text{ }\mu\text{A}$	5			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 30\text{ mA}$ $I_B = 5\text{ mA}$			0.6	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 30\text{ mA}$ $I_B = 5\text{ mA}$			1.2	V
h_{FE}^*	DC Current Gain	$I_C = 25\text{ mA}$ $V_{CE} = 20\text{ V}$	50			
f_T	Transition Frequency	$I_C = 15\text{ mA}$ $V_{CE} = 10\text{ V}$ $f = 20\text{ MHz}$	60			MHz
C_{CBO}	Collector-Base Capacitance	$I_E = 0$ $V_{CB} = 10\text{ V}$ $f = 1\text{ MHz}$		6		pF
C_{EBO}	Emitter-Base Capacitance	$I_C = 0$ $V_{EB} = 2\text{ V}$ $f = 1\text{ MHz}$		22		pF

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 2\%$

SOT-223 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.80			0.071
B	0.60	0.70	0.80	0.024	0.027	0.031
B1	2.90	3.00	3.10	0.114	0.118	0.122
c	0.24	0.26	0.32	0.009	0.010	0.013
D	6.30	6.50	6.70	0.248	0.256	0.264
e		2.30			0.090	
e1		4.60			0.181	
E	3.30	3.50	3.70	0.130	0.138	0.146
H	6.70	7.00	7.30	0.264	0.276	0.287
V			10°			10°
A1		0.02				



P008B

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