

PNP general purpose transistor

2PB709A

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 45 V).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

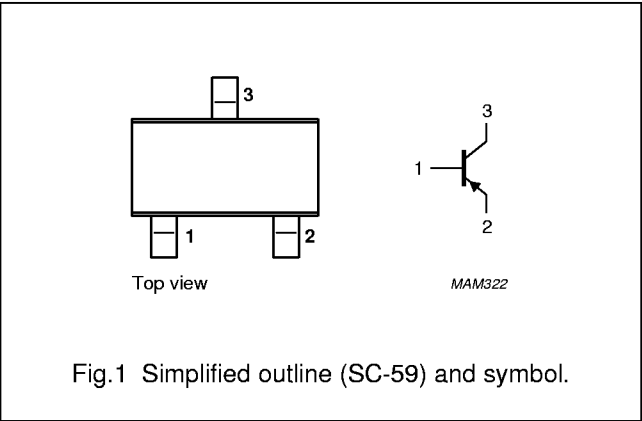
PNP transistor in an SC-59 plastic package.
NPN complement: 2PB601A.

MARKING

TYPE NUMBER	MARKING CODE
2PB709AQ	BQ
2PB709AR	BR
2PB709AS	BS

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	–45	V
V_{CEO}	collector-emitter voltage	open base	–	–45	V
V_{EBO}	emitter-base voltage	open collector	–	–6	V
I_C	collector current (DC)		–	–100	mA
I_{CM}	peak collector current		–	–200	mA
I_{BM}	peak base current		–	–100	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$; note 1	–	250	mW
T_{sig}	storage temperature		–65	+150	$^{\circ}\text{C}$
T_j	junction temperature		–	150	$^{\circ}\text{C}$
T_{amb}	operating ambient temperature		–65	+150	$^{\circ}\text{C}$

Note

1. Transistor mounted on an FR4 printed-circuit board.

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

$T_{amb} = 25\text{ °C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = -45\text{ V}$	–	–10	nA
		$I_E = 0; V_{CB} = -45\text{ V}; T_j = 150\text{ °C}$	–	–5	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–10	nA
h_{FE}	DC current gain	$I_C = -2\text{ mA}; V_{CE} = -10\text{ V}$			
	2PB709AQ		160	260	
	2PB709AR		210	340	
	2PB709AS		290	460	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -10\text{ mA}; \text{note 1}$	–	–500	mV
C_c	collector capacitance	$I_E = I_e = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	–	5	pF
f_T	transition frequency	$I_C = -1\text{ mA}; V_{CE} = -10\text{ V}; f = 100\text{ MHz}$			
	2PB709AQ		60	–	MHz
	2PB709AR		70	–	MHz
	2PB709AS		80	–	MHz

Note

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT346

