

PNP general purpose transistor

2PB710; 2PB710A

FEATURES

- Large collector current
- Low collector-emitter saturation voltage.

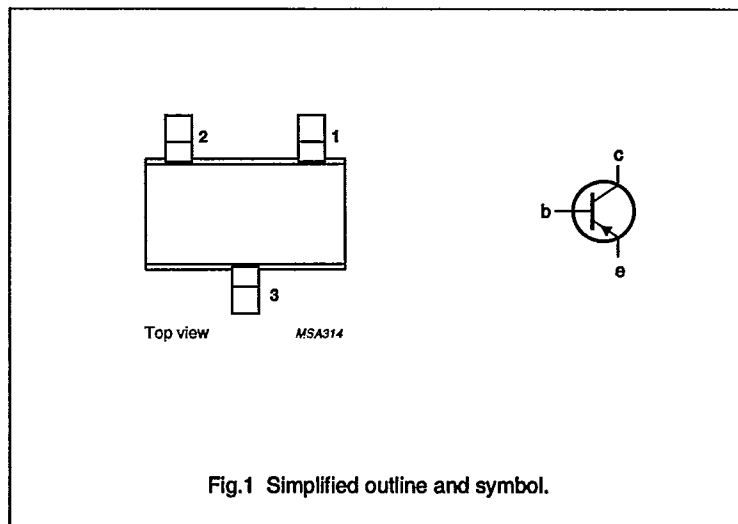
DESCRIPTION

PNP transistor in a plastic SC59 package for general switching or amplification. Complementary pairs are 2PD602 and 2PD602A respectively.

PINNING - SC59

PIN	DESCRIPTION
1	base
2	emitter
3	collector

PIN CONFIGURATION



MARKING CODES

2PB710Q:	CQ
2PB710R:	CR
2PB710S:	CS
2PB710AQ:	DQ
2PB710AR:	DR
2PB710AS:	DS

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter			
	2PB710		—	—30	V
	2PB710A		—	—60	V
V_{CEO}	collector-emitter voltage	open base			
	2PB710		—	—25	V
	2PB710A		—	—50	V
h_{FE}	DC current gain	$I_C = -150$ mA; $V_{CE} = -10$ V; $T_{amb} = 25$ °C	85	340	
I_{CM}	peak collector current		—	—1	A
P_{tot}	total power dissipation	up to $T_{amb} = 25$ °C	—	200	mW
f_T	transition frequency	$I_E = 50$ mA; $V_{CB} = -10$ V; $f = 100$ MHz; $T_{amb} = 25$ °C	150	—	MHz

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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	—	—30	V
	2PB710 2PB710A		—	—60	V
V_{CEO}	collector-emitter voltage	open base	—	—25	V
	2PB710 2PB710A		—	—50	V
V_{EBO}	emitter-base voltage	open collector	—	—5	V
I_C	DC collector current		—	—500	mA
I_{CM}	peak collector current		—	—1	A
P_{tot}	total power dissipation	up to $T_{amb} = 25\text{ °C}$ (note 1) see Fig.2	—	200	mW
T_{stg}	storage temperature		—55	150	°C
T_J	junction temperature		—	150	°C
T_{amb}	operating ambient temperature	see Fig.2	—55	150	°C

Note

1. Refer to SC59 standard mounting conditions.

THERMAL RESISTANCE

SYMBOL	PARAMETER	CONDITIONS	THERMAL RESISTANCE
$R_{th\ j-a}$	thermal resistance from junction to ambient	in free air (note 1)	max. 625 K/W

Note

1. Refer to SC59 standard mounting conditions.

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	collector-base breakdown voltage	open emitter; $I_C = -10\text{ }\mu\text{A}$; $I_E = 0$	—30	—	V
	2PB710 2PB710A		—60	—	V
$V_{(BR)CEO}$	collector-emitter breakdown voltage	open base; $I_C = -2\text{ mA}$; $I_B = 0$ (note 1)	—25	—	V
	2PB710 2PB710A		—50	—	V
$V_{(BR)EBO}$	emitter-base breakdown voltage	open collector; $I_E = -10\text{ }\mu\text{A}$; $I_C = 0$	—5	—	V
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = -300\text{ mA}$; $I_B = -30\text{ mA}$ (note 1)	—	—600	mV
$V_{BE(sat)}$	base-emitter saturation voltage	$I_C = -300\text{ mA}$; $I_B = -30\text{ mA}$ (note 1)	—	—1.5	V

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SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	$I_E = 0$; $V_{CB} = -20$ V	–	–100	nA
		$I_E = 0$; $V_{CB} = -20$ V; $T_J = 150$ °C	–	–5	μA
I_{EBO}	emitter-base cut-off current	$I_C = 0$; $V_{EB} = -4$ V	–	–100	nA
h_{FE}	DC current gain	$I_C = -500$ mA; $V_{CE} = -10$ V (note 1)	40	–	
		$I_C = -150$ mA; $V_{CE} = -10$ V (note 1)			
	2PB710; 2PB710A		85	340	
	2PB710Q; 2PB710AQ		85	170	
	2PB710R; 2PB710AR		120	240	
	2PB710S; 2PB710AS		170	340	
f_T	transition frequency	$I_E = 50$ mA; $V_{CB} = -10$ V; $f = 100$ MHz	150	–	MHz
C_{ob}	collector output capacitance	$I_E = 0$; $V_{CB} = -10$ V; $f = 1$ MHz	–	15	pF

Note

1. Pulse test : $t_p \leq 300$ μs; $\delta \leq 0.02$.

