

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

Product Specification

▶ Domestic	Part Number	BSP62
▶ Overseas	Part Number	BSP62
▶ Equivalent	Part Number	BSP62

EV is the abbreviation of name EVVO

PNP Darlington transistors

FEATURES

- High current (max. 0.5 A)
- Low voltage (max. 80 V)
- Integrated diode and resistor.

APPLICATIONS

- Industrial switching applications such as:
 - Print hammer
 - Solenoid
 - Relay and lamp drivers.

DESCRIPTION

PNP Darlington transistor in a SOT223 plastic package.

PINNING

PIN	DESCRIPTION
1	base
2,4	collector
3	emitter

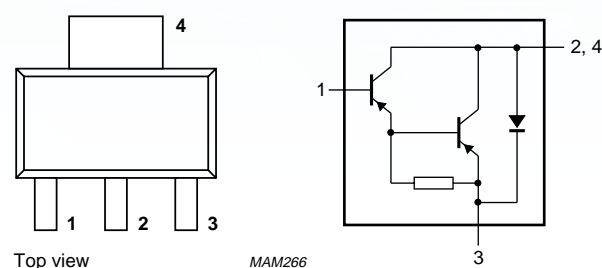


Fig.1 Simplified outline (SOT223) and symbol.

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	–	–90	V
V_{CES}	collector-emitter voltage	$V_{BE} = 0$	–	–80	V
V_{EBO}	emitter-base voltage	open collector	–	–5	V
I_C	collector current (DC)		–	–0.5	A
I_{CM}	peak collector current		–	–1.5	A
I_B	base current (DC)		–	–100	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; note 1	–	1.25	W
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Note

1. Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 1 cm². For other mounting conditions, see “*Thermal considerations for the SOT223 in the General Part of associated Handbook*”.

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	98	K/W
$R_{th\ j-s}$	thermal resistance from junction to solder point		17	K/W

Note

1. Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 1 cm².
 For other mounting conditions, see "Thermal considerations for the SOT223 in the General Part of associated Handbook".

CHARACTERISTICS

$T_j = 25\ ^\circ\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
CES	collector cut-off current	$V_{BE} = 0; V_{CE} = -80\text{ V}$	–	–	–50	nA
EBO	emitter cut-off current	$I_C = 0; V_{EB} = -4\text{ V}$	–	–	–50	nA
FE	DC current gain	$V_{CE} = -10\text{ V}$; note 1; see Fig.2 $I_C = -150\text{ mA}$ $I_C = -500\text{ mA}$	1000 2000	– –	– –	
CEsat	collector-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -0.5\text{ mA}$	–	–	–1.3	V
		$I_C = -500\text{ mA}; I_B = -0.5\text{ mA};$ $T_j = 150\ ^\circ\text{C}$	–	–	–1.3	V
BEsat	base-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -0.5\text{ mA}$	–	–	–1.9	V
	transition frequency	$I_C = -500\text{ mA}; V_{CE} = -5\text{ V};$ $f = 100\text{ MHz}$	–	200	–	MHz

Switching times (between 10% and 90% levels); see Fig.3

on	turn-on time	$I_{Con} = -500\text{ mA}; I_{Bon} = -0.5\text{ mA};$	–	400	–	ns
off	turn-off time	$I_{Boff} = 0.5\text{ mA}$	–	1500	–	ns

Note

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

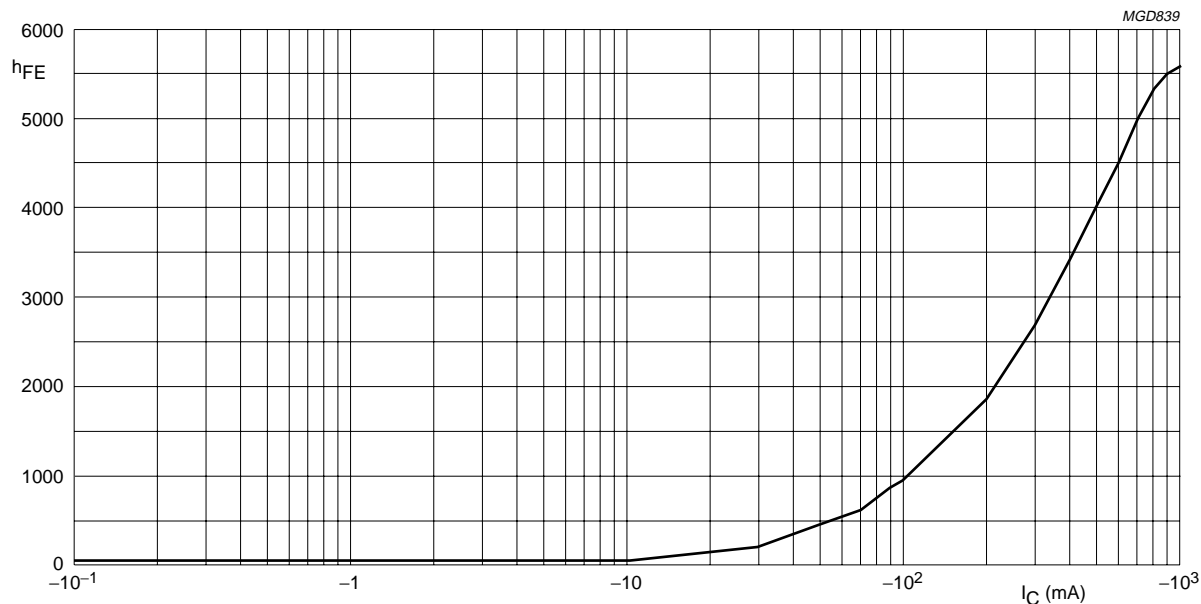
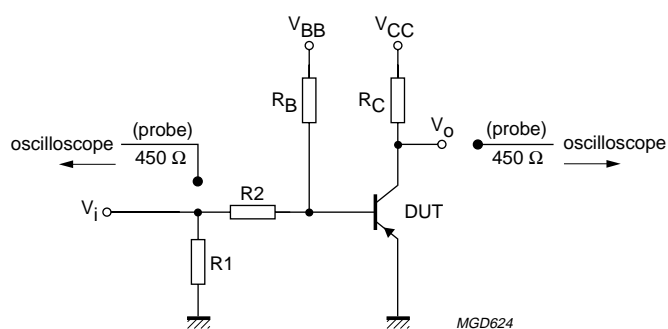

 $V_{CE} = -10 \text{ V.}$

Fig.2 DC current gain; typical values.

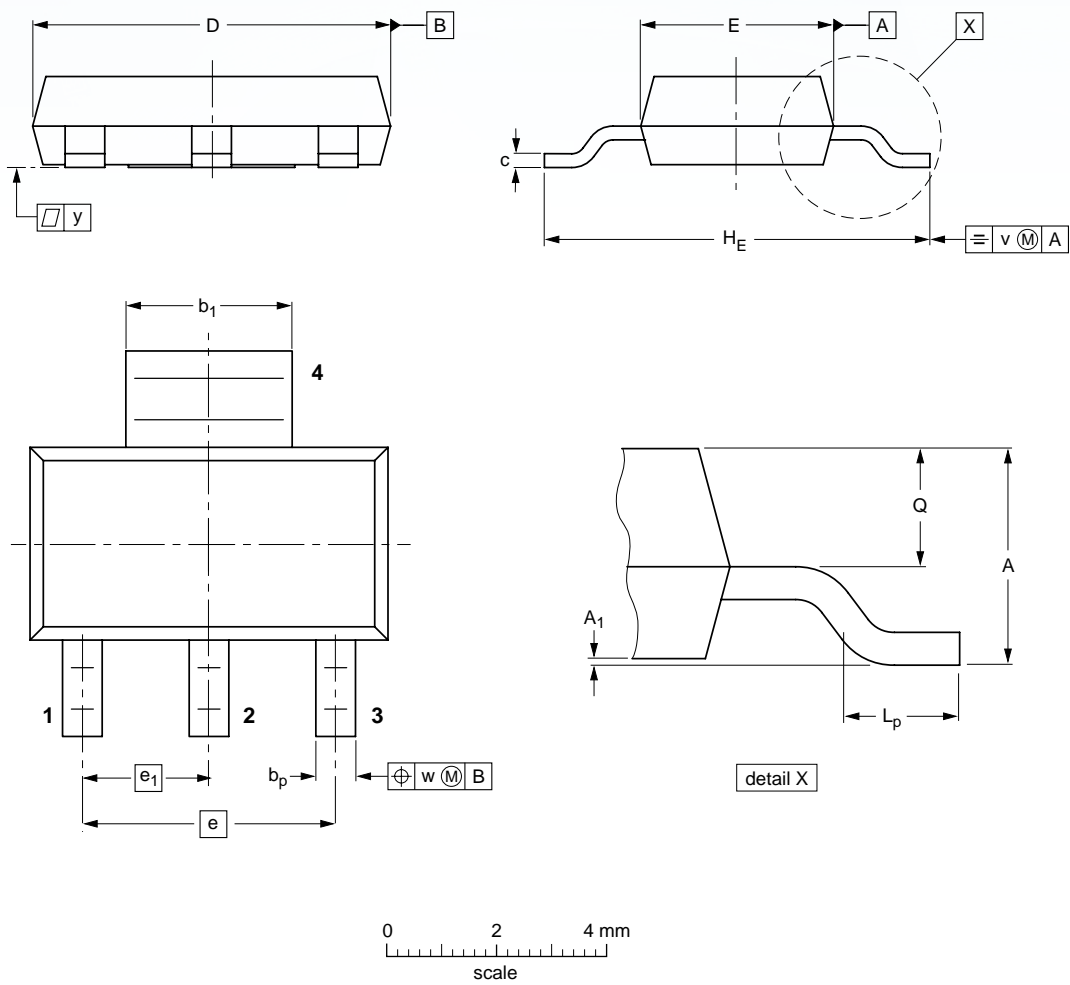


$V_i = -10 \text{ V; } T = 200 \mu\text{s; } t_p = 6 \mu\text{s; } t_r = t_f \leq 3 \text{ ns.}$
 $R_1 = 56 \Omega; R_2 = 10 \text{ k}\Omega; R_B = 10 \text{ k}\Omega; R_C = 18 \Omega.$
 $V_{BB} = 1.8 \text{ V; } V_{CC} = -10.7 \text{ V.}$
 Oscilloscope: input impedance $Z_i = 50 \Omega.$

Fig.3 Test circuit for switching times.

Plastic surface mounted package; collector pad for good heat transfer; 4 leads

SOT223



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁	b _p	b ₁	c	D	E	e	e ₁	H _E	L _p	Q	v	w	y
mm	1.8 1.5	0.10 0.01	0.80 0.60	3.1 2.9	0.32 0.22	6.7 6.3	3.7 3.3	4.6	2.3	7.3 6.7	1.1 0.7	0.95 0.85	0.2	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT223						96-11-11 97-02-28

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