



**THE DATASHEET OF
PBSS5240Y,135**



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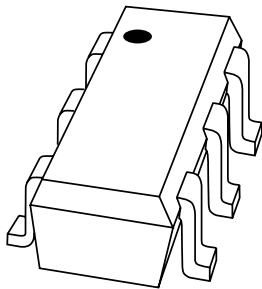
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Kind regards,

Team Nexperia

DATA SHEET



PBSS5240Y

40 V low V_{CEsat} PNP transistor

Product data sheet
Supersedes data of 2001 Oct 24

2002 Feb 28

40 V low V_{CEsat} PNP transistor

PBSS5240Y

FEATURES

- Low collector-emitter saturation voltage
- High current capability
- Improved device reliability due to reduced heat generation
- Replacement for SOT89/SOT223 standard packaged transistors due to enhanced performance.

APPLICATIONS

- Supply line switching circuits
- Battery management applications
- DC/DC converter applications
- Strobe flash units
- Heavy duty battery powered equipment (motor and lamp drivers).

DESCRIPTION

PNP low V_{CEsat} transistor in a SOT363 (SC-88) plastic package.
 NPN complement: PBSS4240Y.

MARKING

TYPE NUMBER	MARKING CODE ⁽¹⁾
PBSS5240Y	52*

Note

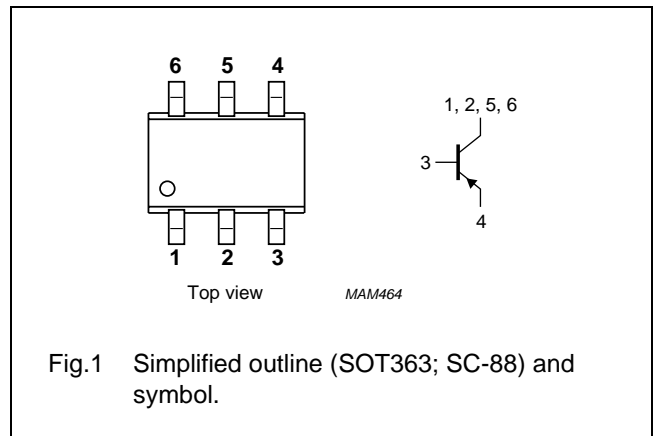
- * = p: made in Hongkong.
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QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V_{CEO}	collector-emitter voltage	-40	V
I_{CM}	peak collector current	-3	A
I_C	collector current (DC)	-2	A
R_{CEsat}	equivalent on-resistance	<200	mΩ

PINNING

PIN	DESCRIPTION
1	collector
2	collector
3	base
4	emitter
5	collector
6	collector



40 V low V_{CEsat} PNP transistor

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LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	–40	V
V_{CEO}	collector-emitter voltage	open base	–	–40	V
V_{EBO}	emitter-base voltage	open collector	–	–5	V
I_C	collector current (DC)		–	–2	A
I_{CM}	peak collector current		–	–3	A
I_{BM}	peak base current		–	–300	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; note 1	–	270	mW
		$T_{amb} \leq 25\text{ °C}$; note 2	–	430	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Notes

1. Device mounted on a printed-circuit board, single side copper, tinplated and standard footprint.
2. Device mounted on a printed-circuit board, single side copper, tinplated and mounting pad for collector 1 cm².

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	463	K/W
		note 2	291	K/W

Notes

1. Device mounted on a printed-circuit board, single side copper, tinplated and standard footprint.
2. Device mounted on a printed-circuit board, single side copper, tinplated and mounting pad for collector 1 cm².

40 V low V_{CEsat} PNP transistor

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	$V_{CB} = -30\text{ V}; I_E = 0$	–	–100	nA
		$V_{CB} = -30\text{ V}; I_E = 0; T_j = 150\text{ °C}$	–	–50	μA
I_{EBO}	emitter-base cut-off current	$V_{EB} = -4\text{ V}; I_C = 0$	–	–100	nA
h_{FE}	DC current gain	$V_{CE} = -2\text{ V}; I_C = -100\text{ mA}$	300	–	
		$V_{CE} = -2\text{ V}; I_C = -500\text{ mA}$	260	–	
		$V_{CE} = -2\text{ V}; I_C = -1000\text{ mA}$	210	–	
		$V_{CE} = -2\text{ V}; I_C = -2000\text{ mA}$	100	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -1\text{ mA}$	–	–100	mV
		$I_C = -500\text{ mA}; I_B = -50\text{ mA}$	–	–110	mV
		$I_C = -750\text{ mA}; I_B = -15\text{ mA}$	–	–225	mV
		$I_C = -1000\text{ mA}; I_B = -50\text{ mA}$	–	–225	mV
		$I_C = -2000\text{ mA}; I_B = -200\text{ mA}$	–	–350	mV
V_{BEsat}	base-emitter saturation voltage	$I_C = -2000\text{ mA}; I_B = -200\text{ mA}$	–	–1.1	V
V_{BEon}	base-emitter turn-on voltage	$V_{CE} = -2\text{ V}; I_C = -100\text{ mA}$	–	–0.75	V
C_c	collector capacitance	$V_{CB} = -10\text{ V}; I_E = I_e = 0; f = 1\text{ MHz}$	–	40	pF
F_T	transition frequency	$I_C = -100\text{ mA}; V_{CE} = -10\text{ V}; f = 100\text{ MHz}$	100	–	MHz

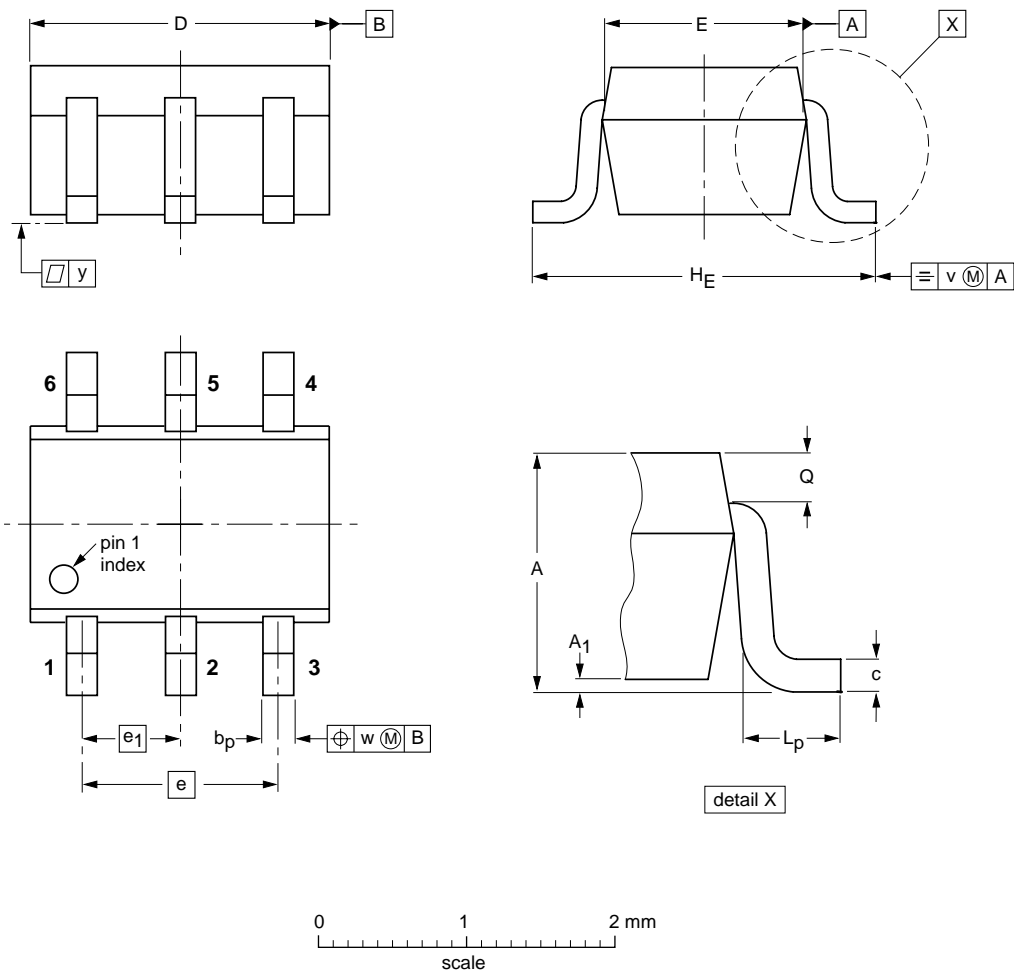
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT363



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT363			SC-88			97-02-28

40 V low V_{CEsat} PNP transistor

PBSS5240Y

DATA SHEET STATUS

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

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NXP Semiconductors

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