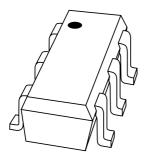
DISCRETE SEMICONDUCTORS

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

- 1. * = p: made in Hongkong.
 - * = t: made in Malaysia.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V _{CEO}	collector-emitter voltage	-40	V
I _{CM}	peak collector current	-3	Α
I _C	collector current (DC)	-2	Α
R _{CEsat}	equivalent on-resistance	<200	mΩ

PINNING

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

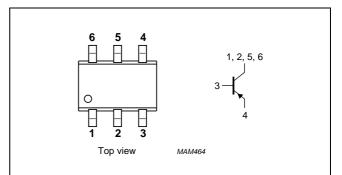


Fig.1 Simplified outline (SOT363; SC-88) and symbol.

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	٧	
V _{EBO}	emitter-base voltage	open collector	_	- 5	V	
I _C	collector current (DC)		_	-2	Α	
I _{CM}	peak collector current		-	-3	Α	
I _{BM}	peak base current		_	-300	mA	
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	_	270	mW	
		T _{amb} ≤ 25 °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	note 1	463	K/W	
	ambient	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.

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CHARACTERISTICS

 T_{amb} = 25 °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
		$V_{CB} = -30 \text{ V}; I_E = 0; T_j = 150 ^{\circ}\text{C}$	_	-50	μΑ
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	$I_C = -100 \text{ mA}; I_B = -1 \text{ mA}$	-	-100	mV
	voltage	$I_C = -500 \text{ mA}; I_B = -50 \text{ mA}$	-	-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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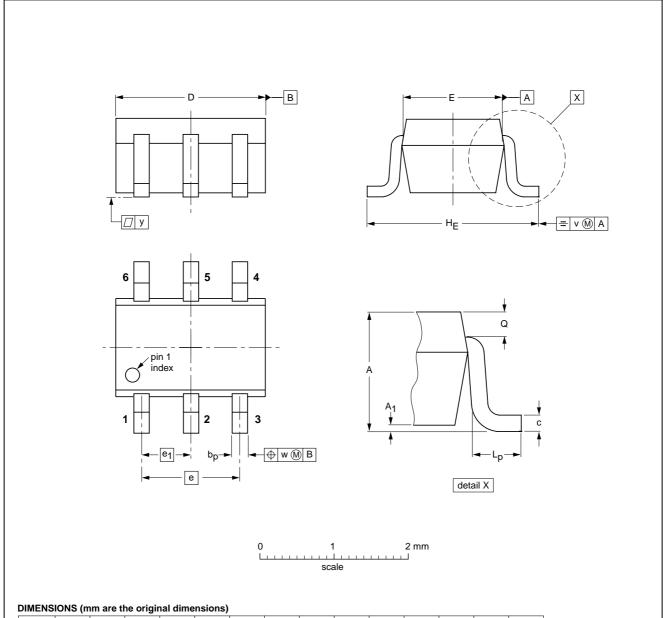
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT363



UNIT	A	A ₁ max	bp	С	D	E	е	e ₁	HE	Lp	Q	v	w	у
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		REFER	EUROPEAN	ISSUE DATE		
VERSION	IEC	JEDEC	EIAJ PROJECTION IS:		ISSUE DATE	
SOT363			SC-88		$ \ \ \bigoplus \big($	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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