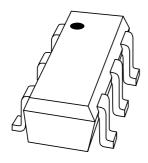
DISCRETE SEMICONDUCTORS

DATA SHEET



PUMZ1 NPN/PNP general purpose transistors

Product data sheet Supersedes data of 2002 May 6 2004 Oct 15



NPN/PNP general purpose transistors

PUMZ1

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 40 V)
- Reduces number of components and boardspace.

APPLICATIONS

• General purpose switching and amplification.

DESCRIPTION

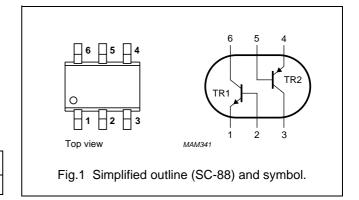
Two independently operating NPN/PNP transistors in an SC-88; SOT363 plastic package.

MARKING

TYPE NUMBER	MARKING CODE ⁽¹⁾	
PUMZ1	F*Z	

PINNING

PIN		DESCRIPTION
1, 4	emitter	TR1; TR2
2, 5	base	TR1; TR2
3, 6	collector	TR2; TR1



Note

- 1. * = -: Made in Hong Kong.
 - * = t: Made in Malaysia.
 - * = W: Made in China.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
ITPE NUMBER	NAME DESCRIPTION VERSION		VERSION
PUMZ1	_	plastic surface mounted package; 6 leads	SOT363

NPN/PNP general purpose transistors

PUMZ1

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per transis	Per transistor; for the PNP transistor with negative polarity				
V _{CBO}	collector-base voltage	open emitter	_	50	V
V _{CEO}	collector-emitter voltage	open base	_	40	V
V _{EBO}	emitter-base voltage	open collector	-	5	V
I _C	collector current (DC)		_	100	mA
I _{CM}	peak collector current		_	200	mA
I _{BM}	peak base current		-	200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C	_	200	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		_	150	°C
T _{amb}	operating ambient temperature		-65	+150	°C
Per device	Per device				
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1		300	mW

Note

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT	
Per device					
R _{th(j-a)}	thermal resistance from junction to ambient	note 1	416	K/W	

Note

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

^{1.} Device mounted on an FR4 printed-circuit board.

NPN/PNP general purpose transistors

PUMZ1

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT	
Per transist	Per transistor; for the PNP transistor with negative polarity					
I _{CBO}	collector-base cut-off current	I _E = 0 A; V _{CB} = 30 V	_	100	nA	
		I _E = 0 A; V _{CB} = 30 V; T _j = 150 °C	_	10	μΑ	
I _{EBO}	emitter-base cut-off current	I _C = 0 A; V _{EB} = 4 V	_	100	nA	
h _{FE}	DC current gain	I _C = 1 mA; V _{CE} = 6 V	120	_		
V _{CEsat}	collector-emitter saturation voltage	$I_C = 50 \text{ mA}; I_B = 5 \text{ mA}; \text{ note 1}$	_	200	mV	
C _c	collector capacitance	$I_E = i_e = 0 \text{ A}; V_{CB} = 12 \text{ V}; f = 1 \text{ MHz}$				
	TR1		_	1.5	pF	
	TR2		_	2.2	pF	
f _T	transition frequency	I _C = 2 mA; V _{CE} = 12 V; f = 100 MHz	100	_	MHz	

Note

1. Pulse test: $t_p \le 300~\mu s;~\delta \le 0.02.$

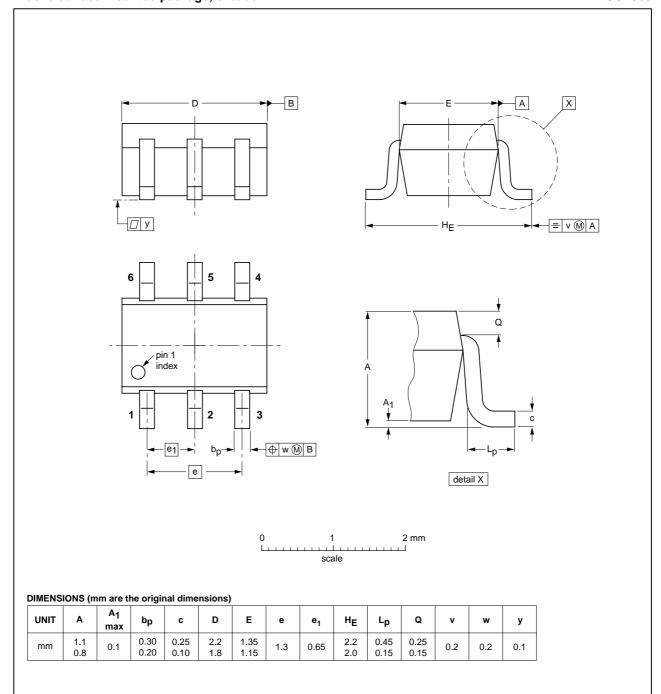
NPN/PNP general purpose transistors

PUMZ1

PACKAGE OUTLINE

Plastic surface-mounted package; 6 leads

SOT363



REFERENCES

JEITA

SC-88

JEDEC

EUROPEAN

PROJECTION

ISSUE DATE

04-11-08

06-03-16

5

IEC

OUTLINE

VERSION

SOT363

NPN/PNP general purpose transistors

PUMZ1

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.

Notes

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- 2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

For additional information please visit: http://www.nxp.com
For sales offices addresses send e-mail to: salesaddresses@nxp.com

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