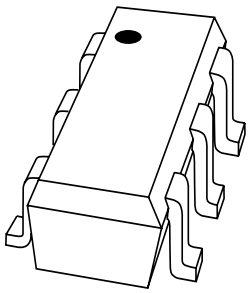
DATA SHEET



PUMZ1
NPN/PNP general purpose transistors

Preliminary specification
Supersedes data of 1999 Apr 14

2002 May 06

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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
PUMZ1	FtZ

PINNING

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

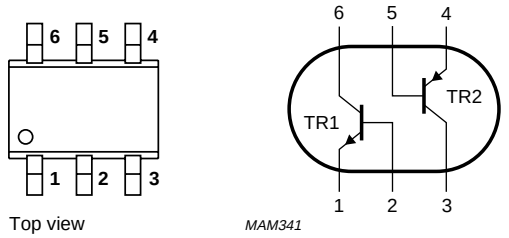


Fig.1 Simplified outline (SC-88) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
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	$T_{amb} \leq 25$ °C	–	200	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C
Per device					
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C; note 1	–	300	mW

Note

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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
Per device				
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	note 1	416	K/W

Note

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

CHARACTERISTICS

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

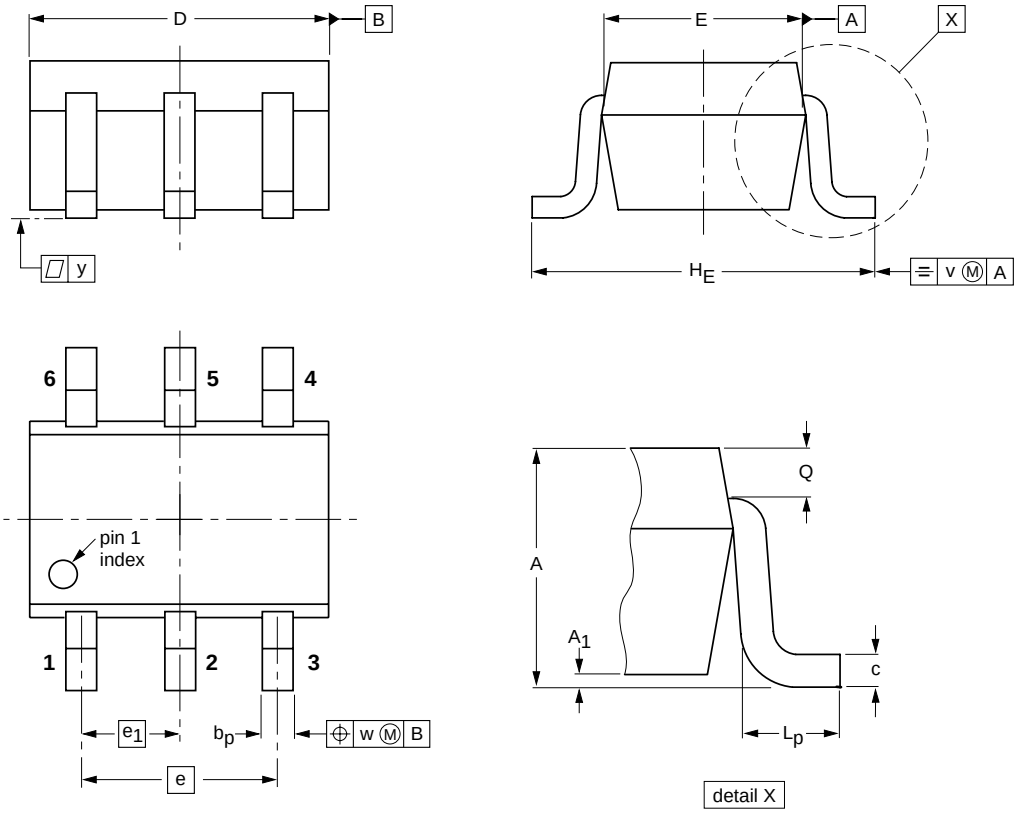
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per transistor; for the PNP transistor with negative polarity					
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = 30 V	–	100	nA
		I_E = 0; V_{CB} = 30 V; T_j = 150 °C	–	10	µA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = 4 V	–	100	nA
h_{FE}	DC current gain	I_C = 1 mA; V_{CE} = 6 V	120	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = 50 mA; I_B = 5 mA; note 1	–	200	mV
C_c	collector capacitance	$I_E = i_e$ = 0; V_{CB} = 12 V; f = 1 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: $t_p \leq 300$ µs; $\delta \leq 0.02$.

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

DATA SHEET STATUS

DATA SHEET STATUS[1]	PRODUCT STATUS[2]	DEFINITIONS
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