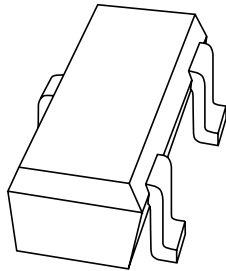


DATA SHEET



2PD602A

NPN general purpose transistor

Product data sheet
Supersedes data of 1997 Jun 20

1999 Apr 23



NPN general purpose transistor

2PD602A

FEATURES

- High current (max. 500 mA)
- Low voltage (max. 50 V).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

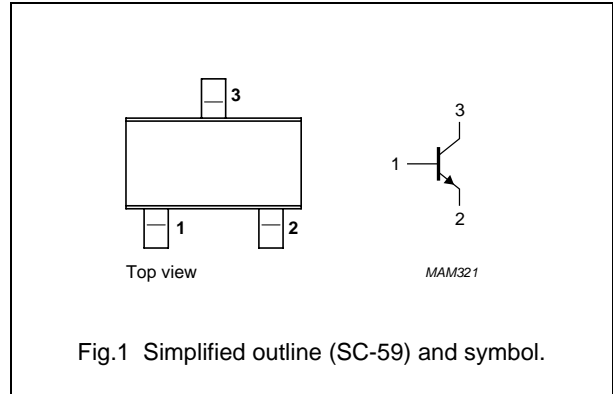
NPN transistor in an SC-59 plastic package.
PNP complement: 2PB710A.

MARKING

TYPE NUMBER	MARKING CODE
2PD602AQ	XQ
2PD602AR	XR
2PD602AS	XS

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



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	–	60	V
V_{CEO}	collector-emitter voltage	open base	–	50	V
V_{EBO}	emitter-base voltage	open collector	–	5	V
I_C	collector current (DC)		–	500	mA
I_{CM}	peak collector current		–	1	A
I_{BM}	peak base current		–	200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; note 1	–	250	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Note

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

NPN general purpose transistor

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

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

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT	
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = 60\text{ V}$	–	10	nA	
		$I_E = 0; V_{CB} = 60\text{ V}; T_j = 150\text{ °C}$	–	5	μA	
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = 4\text{ V}$	–	10	nA	
h_{FE}	DC current gain	$I_C = 150\text{ mA}; V_{CE} = 10\text{ V};$ note 1	85	170		
			2PD602AQ	120	240	
			2PD602AR	170	340	
	2PD602AS					
	DC current gain	$I_C = 500\text{ mA}; V_{CE} = 10\text{ V};$ note 1	40	–		
V_{CEsat}	collector-emitter saturation voltage	$I_C = 300\text{ mA}; I_B = 30\text{ mA};$ note 1	–	600	mV	
C_c	collector capacitance	$I_E = I_E = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	15	pF	
f_T	transition frequency	$I_C = 50\text{ mA}; V_{CE} = 10\text{ V};$ $f = 100\text{ MHz};$ note 1	140	–	MHz	
			2PD602AQ	160	–	MHz
			2PD602AR	180	–	MHz
			2PD602AS			

Note

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

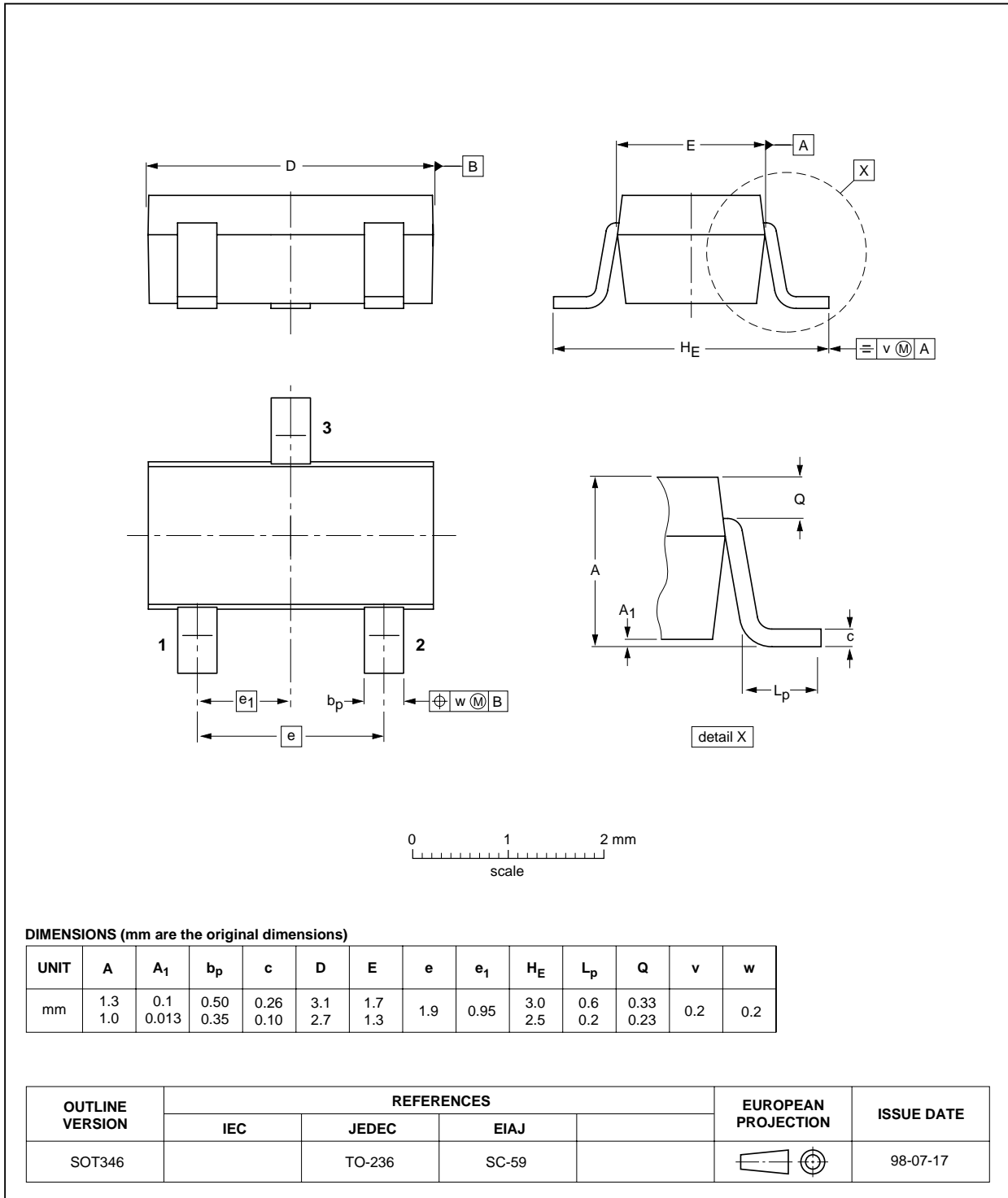
NPN general purpose transistor

2PD602A

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT346



NPN general purpose transistor

2PD602A

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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