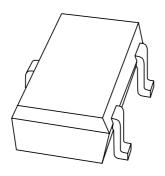
DISCRETE SEMICONDUCTORS

DATA SHEET



2PD1820ANPN general purpose transistor

Product data sheet Supersedes data of 1997 May 22 1999 Apr 12



NPN general purpose transistor

2PD1820A

FEATURES

- High current (max. 500 mA)
- Low voltage (max. 50 V)
- Low collector-emitter saturation voltage (max. 600 mV).

APPLICATIONS

• General purpose switching and amplification, especially for portable equipment.

DESCRIPTION

NPN transistor in an SC-70; SOT323 plastic package. PNP complement: 2PB1219A.

MARKING

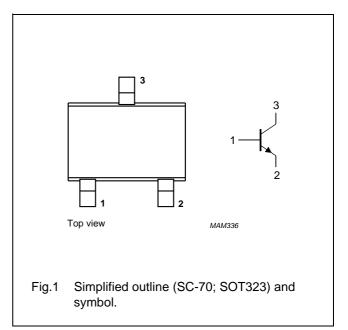
TYPE NUMBER	MARKING CODE(1)
2PD1820AQ	A*Q
2PD1820AR	A*R
2PD1820AS	A*S

Note

* = - : Made in Hong Kong.
 * = t : Made in Malaysia.

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	Α
I_{BM}	peak base current		_	200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	-	200	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	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	625	K/W

Note

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

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I _{CBO}	collector cut-off current	I _E = 0; V _{CB} = 20 V	_	10	nA
		I _E = 0; V _{CB} = 20 V; T _j = 150 °C	_	5	μΑ
I _{EBO}	emitter cut-off current	I _C = 0; V _{EB} = 4 V	_	10	nA
h _{FE}	DC current gain	I _C = 150 mA; V _{CE} = 10 V; note 1			
	2PD1820AQ		85	170	
	2PD1820AR		120	240	
	2PD1820AS		170	340	
h _{FE}	DC current gain	I _C = 500 mA; V _{CE} = 10 V; note 1	40	_	
V _{CEsat}	collector-emitter saturation voltage	I _C = 300 mA; I _B = 30 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	150	_	MHz

Note

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

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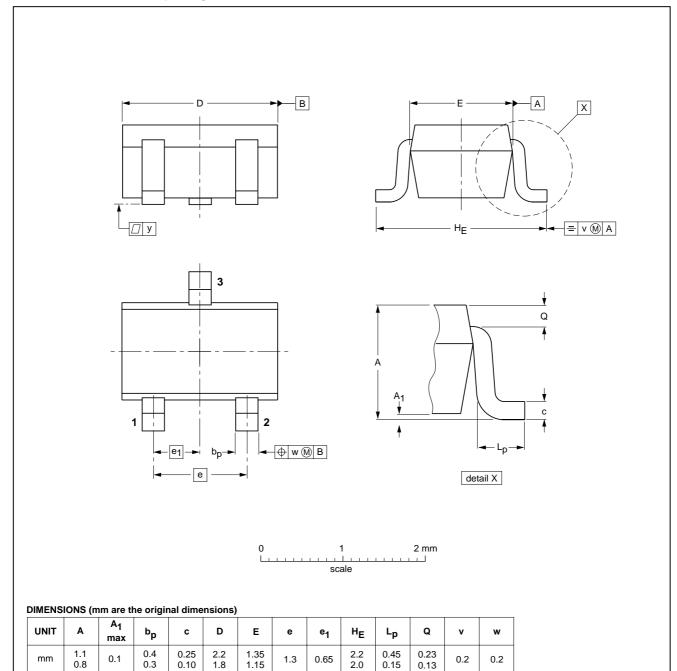
NPN general purpose transistor

2PD1820A

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



OUTLINE	REFERENCES			EUROPEAN	ISSUE DATE	
VERSION	IEC	JEDEC	EIAJ		PROJECTION	ISSUE DATE
SOT323			SC-70			97-02-28

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1999 Apr 12

NPN general purpose transistor

2PD1820A

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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