Product data sheet

1. Product profile

1.1 General description

Four planar PIN diode array in SOT363 small SMD plastic package.

1.2 Features and benefits

- High voltage current controlled RF resistor for RF attenuators
- Low diode capacitance
- Very low series inductance
- Low distortion

1.3 Applications

- RF attenuators
- (SAT) TV applications
- Car radio applications

2. Pinning information

Table 1. Discrete pinning

Pin	Description	Simplified outline	Graphic symbol		
1	anode diode 1				
2	cathode diode 2	6 5 4	6 5 4		
3	anode diode 3 / cathode diode 4		($) $		
4	anode diode 4				
5	cathode diode 3	∐1 ∐2 <u></u> 3	1 2 3 sym118		
6	anode diode 2 / cathode diode 1				

3. Ordering information

Table 2. Ordering information

Type number	Package				
	Name	Description	Version		
BAP70AM	-	plastic surface-mounted package; 6 leads	SOT363		



4. Marking

Table 3. Marking

Type number	Marking code	Description
BAP70AM	N9*	* = - : made in Hong Kong
		* = p : made in Hong Kong
		* = t : made in Malaysia

5. Limiting values

Table 4. Limiting values

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

Symbol	Parameter	Conditions	Min	Max	Unit
V_R	reverse voltage		-	50	V
I _F	forward current		-	100	mA
P _{tot}	total power dissipation	T _{sp} = 90 °C	-	300	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		-65	+150	°C

6. Thermal characteristics

Table 5. Thermal characteristics

Symbol	Parameter	Conditions	Тур	Unit
R _{th(j-sp)}	thermal resistance from junction to solder point		260	K/W

7. Characteristics

Table 6. Characteristics

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

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
V _F	forward voltage	$I_F = 50 \text{ mA}$	-	0.9	1.1	V
I _R	reverse current	V _R = 50 V	-	-	< 100	nA
C _d	diode capacitance	see Figure 1; f = 1 MHz;				
		$V_R = 0 V$	-	570	-	fF
		V _R = 1 V	-	400	-	fF
		V _R = 5 V	-	270	-	fF
		V _R = 20 V	-	200	250	fF
Г	diode forward resistance	see Figure 2; f = 100 MHz;				
		I _F = 0.5 mA	-	77	100	Ω
		I _F = 1 mA	-	40	50	Ω
		I _F = 10 mA	-	5.4	7	Ω
		I _F = 100 mA	-	1.4	1.9	Ω
τι	charge carrier life time	when switched from I _F = 10 mA to I _R = 6 mA; R _L = 100 Ω ; measured at I _R = 3 mA	-	1.25	-	μs
L _S	series inductance	I _F = 100 mA; f = 100 MHz	-	0.6	-	nH

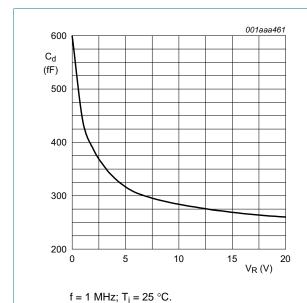
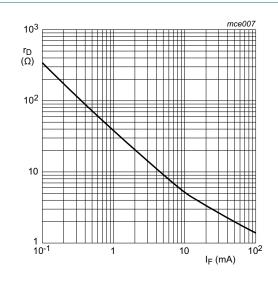


Fig 1. Diode capacitance as a function of reverse voltage; typical values



f = 100 MHz; T_j = 25 °C.

Fig 2. Diode forward resistance as a function of forward current; typical values

Package outline

SOT363 Plastic surface-mounted package; 6 leads Α X = v M A ΗE Q ⊕ w M B е detail X scale **DIMENSIONS (mm are the original dimensions)** Α1 UNIT D Q Α С Ε ٧ е e₁ H_{E} $L_{\mathbf{p}}$ w у max 0.30 0.25 0.10 1.35 1.15 2.2 2.0 0.45 0.25 1.1 2.2 0.65 0.1 0.8 0.20 1.8 0.15 0.15 REFERENCES **EUROPEAN** OUTLINE ISSUE DATE VERSION JEDEC **PROJECTION** IEC JEITA 04-11-08

Fig 3. Package outline SOT363

SOT363

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SC-88

9. Abbreviations

Table 7. Abbreviations

Acronym	Description
PIN	P-type, Intrinsic, N-type
SMD	Surface Mounted Device
RF	Radio Frequency
SAT	SATellite

10. Revision history

Table 8. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BAP70AM v.4	20140307	Product data sheet	-	BAP70AM v.3
Modifications:	 Rollback to pre 	vious version		
BAP70AM v.3	20140127	Product data sheet	-	BAP70AM v.2
BAP70AM v.2	20100907	Product data sheet	-	BAP70AM v.1
BAP70AM v.1	20061120	Product data sheet	-	-

11. Legal information

11.1 Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions"
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BAP70AM

Silicon PIN diode array

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