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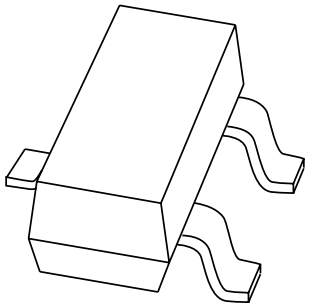
DATA SHEET



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FEATURES

- High voltage, current controlled
- RF resistor for RF attenuators and switches
- Low diode capacitance
- Low diode forward resistance
- Very low series inductance
- For applications up to 3 GHz.

APPLICATIONS

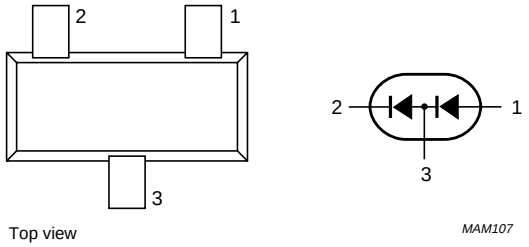
- RF attenuators and switches.

DESCRIPTION

Two planar PIN diodes in series configuration in a SOT23 small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	anode
2	cathode
3	common connection



Marking code: 6Fp.

Fig.1 Simplified outline (SOT23) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_R	continuous reverse voltage		–	60	V
I_F	continuous forward current		–	100	mA
P_{tot}	total power dissipation	$T_s \leq 90$ °C	–	250	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–65	+150	°C

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ELECTRICAL CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
Per diode					
V_F	forward voltage	I_F = 50 mA	0.95	1.1	V
I_R	reverse leakage current	V_R = 60 V	–	100	nA
C_d	diode capacitance	V_R = 0; f = 1 MHz	0.42	–	pF
		V_R = 1 V; f = 1 MHz	0.375	0.45	pF
		V_R = 20 V; f = 1 MHz	0.275	0.325	pF
r_D	diode forward resistance	f = 100 MHz; note 1			
		I_F = 0.5 mA	3.4	5.0	Ω
		I_F = 1 mA	2.4	3.6	Ω
		I_F = 10 mA	1.2	1.8	Ω
		I_F = 100 mA	0.85	1.3	Ω
$\|s_{21}\|^2$	isolation	V_R = 0; f = 900 MHz	15.7	–	dB
		V_R = 0; f = 1800 MHz	10.5	–	dB
		V_R = 0; f = 2450 MHz	7.9	–	dB
$\|s_{21}\|^2$	insertion loss	I_F = 0.5 mA; f = 900 MHz	0.27	–	dB
		I_F = 0.5 mA; f = 1800 MHz	0.35	–	dB
		I_F = 0.5 mA; f = 2450 MHz	0.43	–	dB
$\|s_{21}\|^2$	insertion loss	I_F = 1 mA; f = 900 MHz	0.21	–	dB
		I_F = 1 mA; f = 1800 MHz	0.29	–	dB
		I_F = 1 mA; f = 2450 MHz	0.37	–	dB
$\|s_{21}\|^2$	insertion loss	I_F = 10 mA; f = 900 MHz	0.14	–	dB
		I_F = 10 mA; f = 1800 MHz	0.21	–	dB
		I_F = 10 mA; f = 2450 MHz	0.29	–	dB
$\|s_{21}\|^2$	insertion loss	I_F = 100 mA; f = 900 MHz	0.10	–	dB
		I_F = 100 mA; f = 1800 MHz	0.18	–	dB
		I_F = 100 mA; f = 2450 MHz	0.26	–	dB
τ_L	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	0.5	–	µs
L_S	series inductance	I_F = 100 mA; f = 100 MHz	1.4	–	nH

Note

1. Guaranteed on AQL basis: inspection level S4, AQL 1.0.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j\text{-}s}$	thermal resistance from junction to soldering point	220	K/W