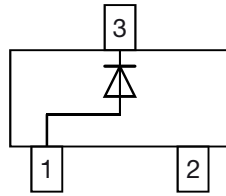




**THE DATASHEET OF  
BA779-HG3-08**



## RF PIN Diodes



**DESIGN SUPPORT TOOLS** click logo to get started



### FEATURES

- Wide frequency range 10 MHz to 1 GHz
- AEC-Q101 qualified
- Base P/N-HG3 - green, automotive grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

AUTOMOTIVE GRADE



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### APPLICATIONS

- Current controlled HF resistance in adjustable attenuators

### MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 8.1 mg

**Packaging codes/options:**

08/3K per 7" reel (8 mm tape), 15K/box

### PARTS TABLE

PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
BA779-G	BA779-HG3-08	PH1	Single	Tape and reel

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PART	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	30	V
Forward continuous current		$I_F$	50	mA

### THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	on PC board 50 mm x 50 mm x 1.6 mm	$R_{thJA}$	500	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-55 to +150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	-55 to +125	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 20\text{ mA}$		$V_F$			1	V
Reverse current	$V_R = 30\text{ V}$		$I_R$			0.05	$\mu\text{A}$
Diode capacitance	$f = 100\text{ MHz}, V_R = 0\text{ V}$		$C_D$			0.5	pF
Differential forward resistance	$f = 100\text{ MHz}, I_F = 1.5\text{ mA}$		$r_f$			50	$\Omega$
Reverse impedance	$f = 100\text{ MHz}, V_R = 0\text{ V}$	BA779-G	$z_r$	5			k $\Omega$
Minority carrier lifetime	$I_F = 10\text{ mA}, I_R = 10\text{ mA}$		$\tau$		4		$\mu\text{s}$

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

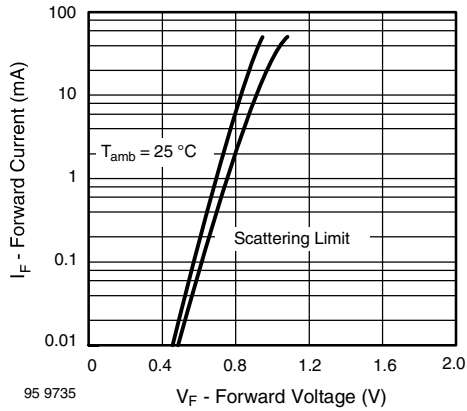


Fig. 1 - Forward Current vs. Forward Voltage

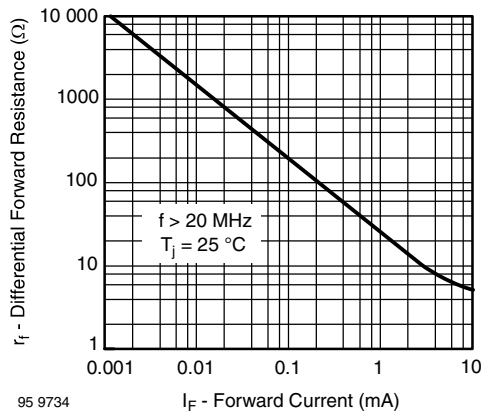


Fig. 2 - Differential Forward Resistance vs. Forward Current

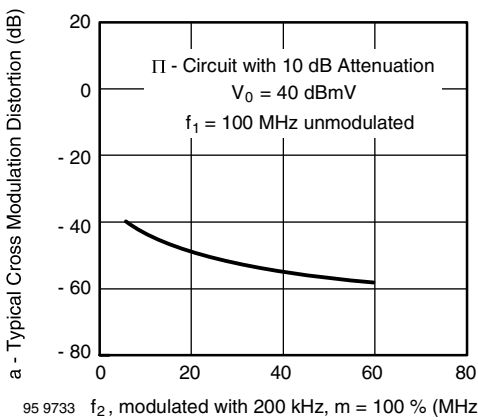
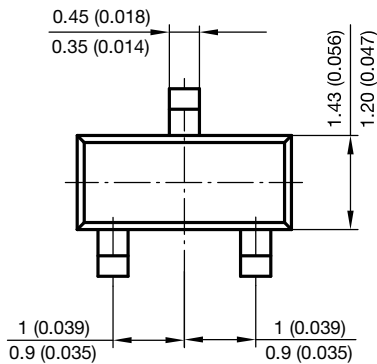
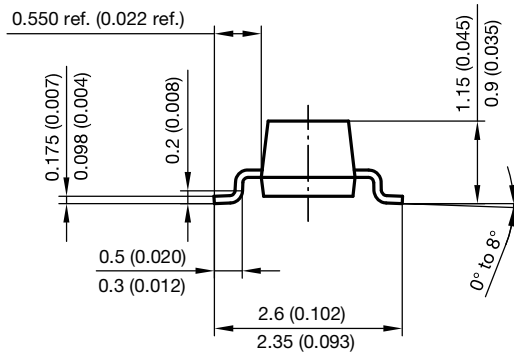
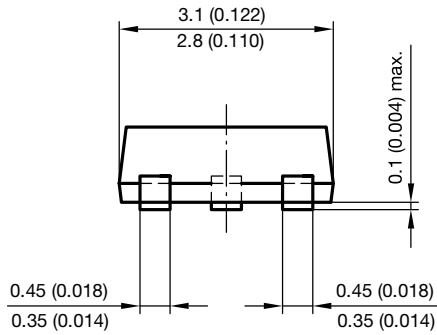


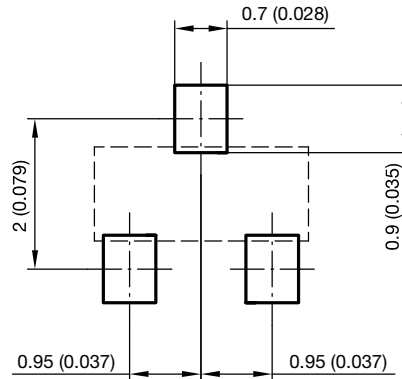
Fig. 3 - Typ. Cross Modulation Distortion vs. Frequency  $f_2$



PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



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Rev. 8 - Date: 23.Sept.2009  
17418



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