



### Maximum Ratings

(Above which useful life may be impaired. For user guidelines, not tested.)

Storage Temperature.....	-65°C to +150°C
Supply Voltage to Ground Potential.....	-0.5V to +2.5V
DC Input Voltage .....	-0.5V to V <sub>DD</sub>
DC Output Current.....	120mA
Power Dissipation.....	0.5W

**Note:**

Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

### Truth Table

Function	SEL <sub>0</sub>	SEL <sub>1</sub>
A <sub>N</sub> to <sub>N</sub> B <sub>1</sub> , N = 0, 1, 2, 3	L	X
A <sub>N</sub> to <sub>N</sub> B <sub>2</sub> , N = 0, 1, 2, 3	H	X
A <sub>N</sub> to <sub>N</sub> B <sub>1</sub> , N = 4, 5, 6, 7, 8, 9	X	L
A <sub>N</sub> to <sub>N</sub> B <sub>2</sub> , N = 4, 5, 6, 7, 8, 9	X	H

### DC Electrical Characteristics for Switching over Operating Range (T<sub>A</sub> = -40°C to +85°C, V<sub>DD</sub> = 1.5V to 2.0V)

Parameter	Description	Test Conditions <sup>(1)</sup>	Min.	Typ. <sup>(2)</sup>	Max.	Units
V <sub>IH</sub>	Input HIGH Voltage	Guaranteed HIGH level	0.65 x V <sub>DD</sub>	-	-	V
V <sub>IL</sub>	Input LOW Voltage	Guaranteed LOW level	-0.5	-	0.35 x V <sub>DD</sub>	
V <sub>IK</sub>	Clamp Diode Voltage	V <sub>DD</sub> = Max., I <sub>IN</sub> = -18mA	-	-0.7	-1.2	μA
I <sub>IH</sub>	Input HIGH Current	V <sub>DD</sub> = Max., V <sub>IN</sub> = V <sub>DD</sub>	-	-	±5	
I <sub>IL</sub>	Input LOW Current	V <sub>DD</sub> = Max., V <sub>IN</sub> = GND	-	-	±5	

**Notes:**

- For Max. or Min. conditions, use appropriate value specified under Electrical Characteristics for the applicable device type.
- Typical values are at V<sub>DD</sub> = 1.8V, T<sub>A</sub> = 25°C ambient and maximum loading.

### Power Supply Characteristics

Parameters	Description	Test Conditions <sup>(1)</sup>	Min.	Typ. <sup>(2)</sup>	Max.	Units
I <sub>CC</sub>	Quiescent Power Supply Current	V <sub>DD</sub> = Max., V <sub>IN</sub> = GND or V <sub>DD</sub>		400		μA

**Notes:**

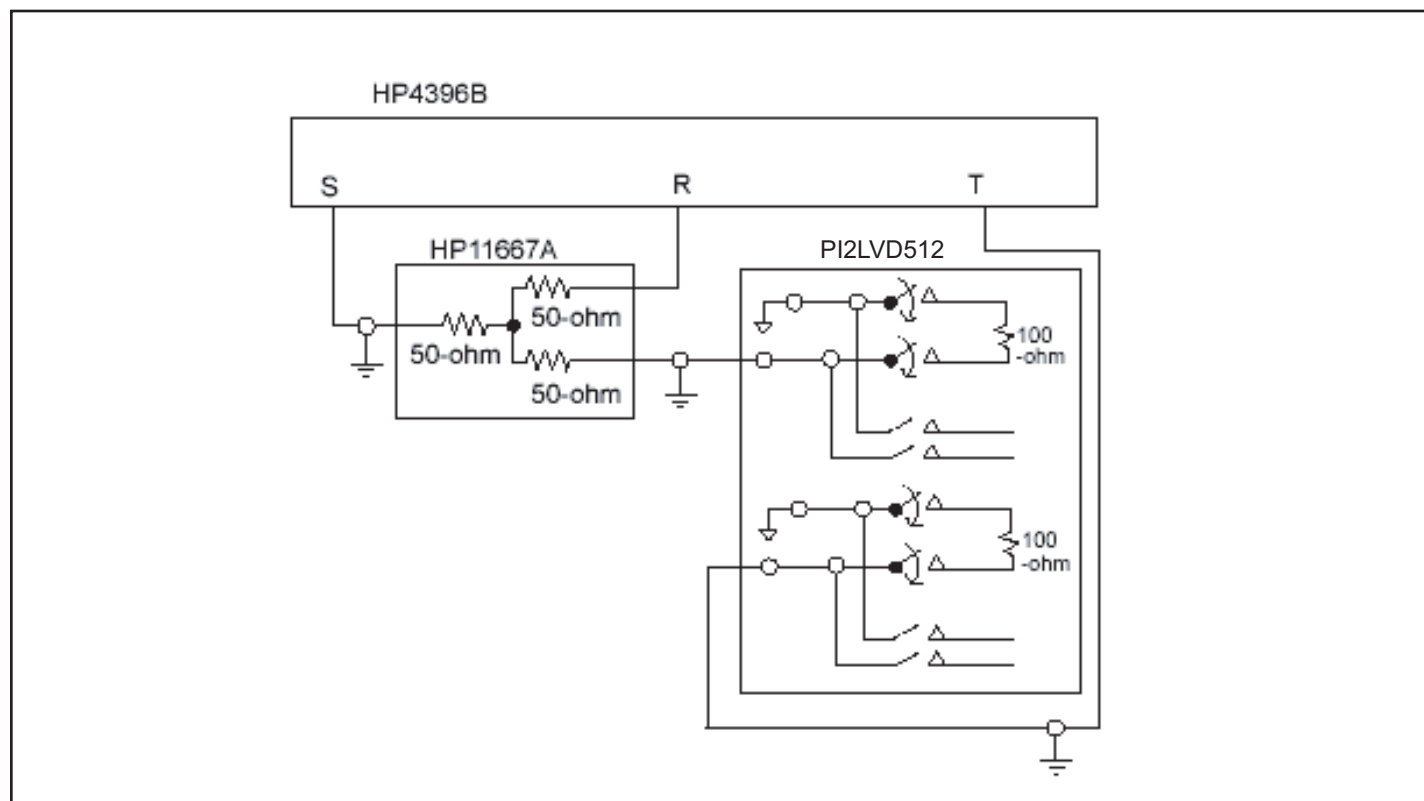
1. For Max. or Min. conditions, use appropriate value specified under Electrical Characteristics for the applicable device type.
2. Typical values are at V<sub>DD</sub> = 1.8V, T<sub>A</sub> = 25°C ambient and maximum loading.

### Dynamic Electrical Characteristics Over the Operating Range (T<sub>A</sub> = -40° to +85°C, V<sub>DD</sub> = 1.8V±10%, GND=0V)

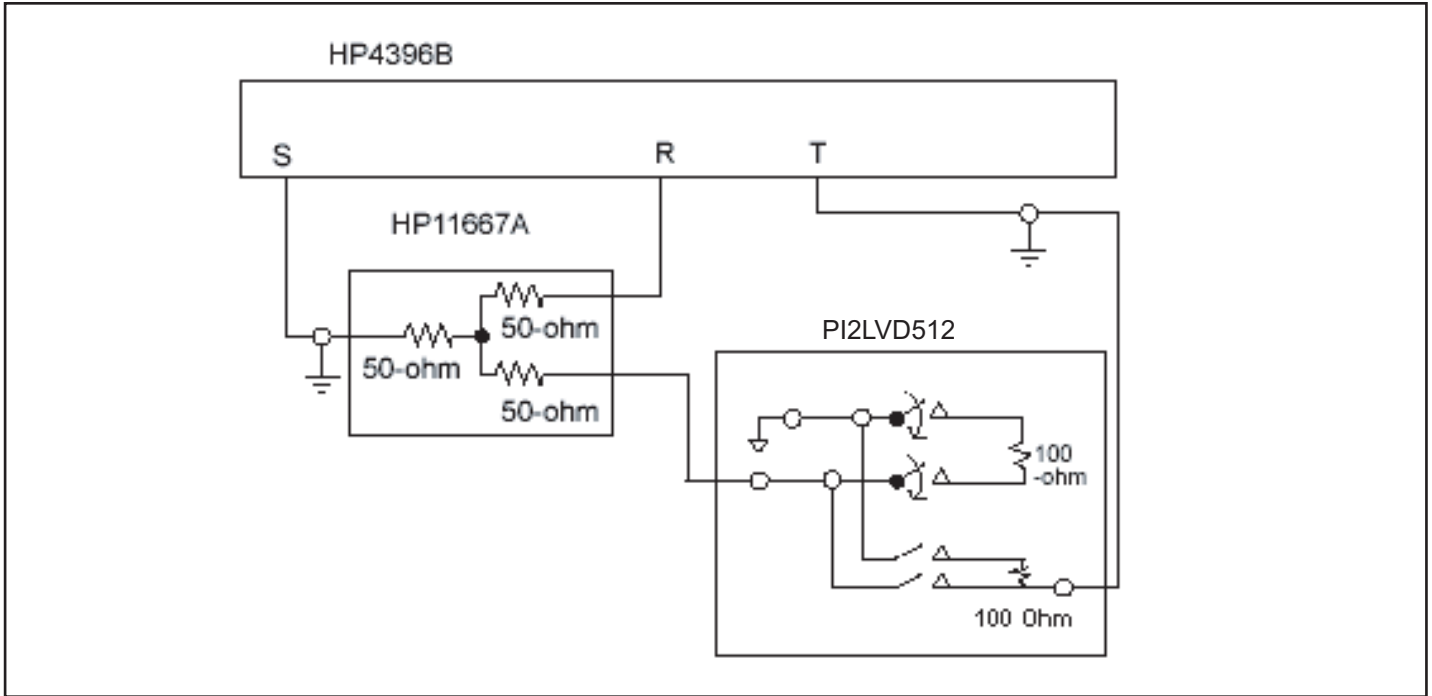
Parameter	Description	Test Conditions	Min.	Typ.	Max.	Units
X <sub>TALK</sub> <sup>(1)</sup>	Crosstalk	See Fig. 1 for Measurement Setup, f = 10 MHz		-70		dB
O <sub>IRR</sub> <sup>(1)</sup>	OFF Isolation	See Fig. 2 for Measurement Setup, f = 10 MHz		-65		
BW	-3dB Bandwidth			1.26		GHz

**Note:**

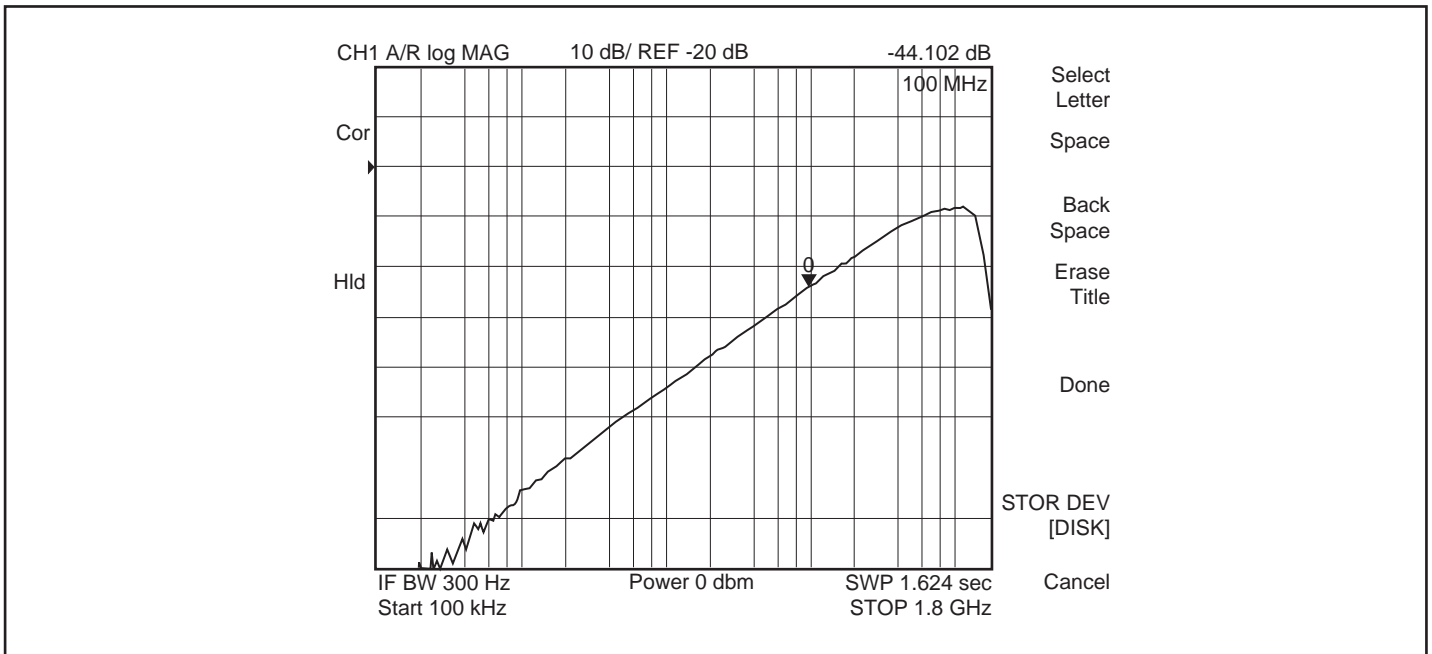
1. Guaranteed by design.



**Fig 1. Crosstalk Setup**



**Fig 2. Off-isolation setup**



**Fig 3. Crosstalk**

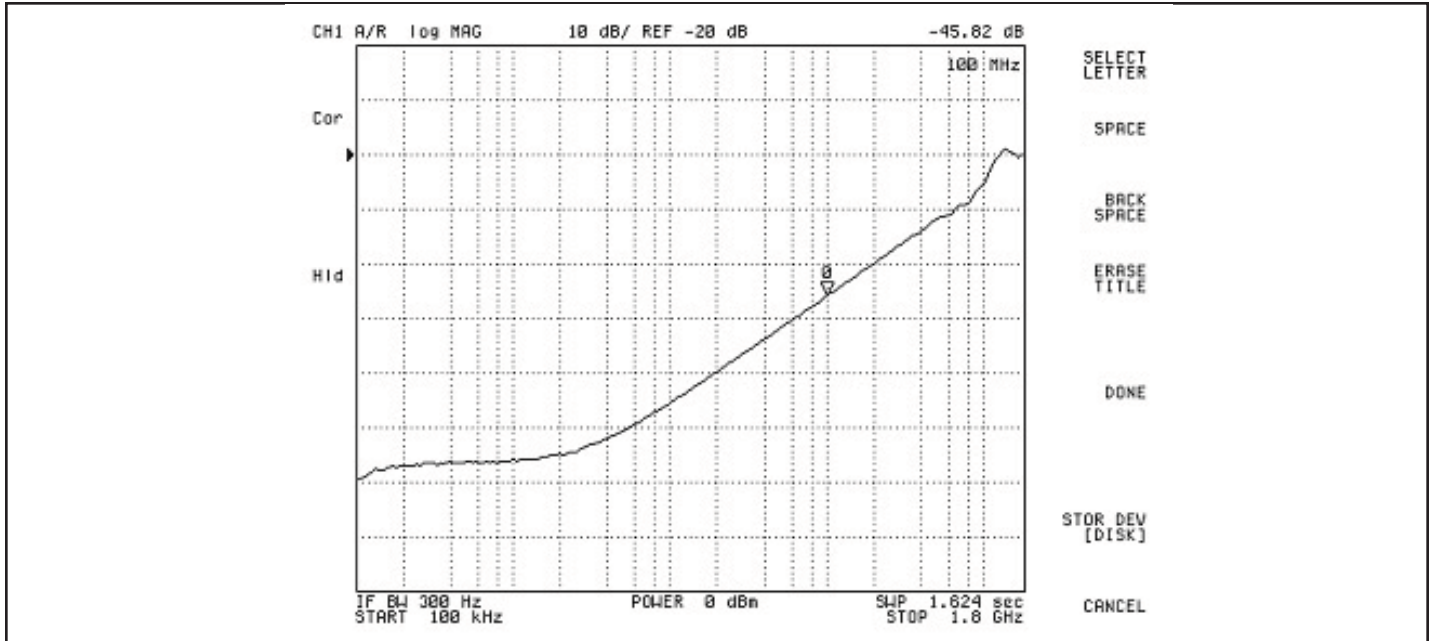


Fig 4. Off Isolation

Switching Characteristics ( $T_A = -40^\circ$  to  $+85^\circ\text{C}$ ,  $V_{DD} = 1.8\text{V} \pm 10\%$ )

Parameter	Description	Min.	Typ. <sup>(2)</sup>	Max.	Units
tpZH, tpZL	Line Enable Time - SEL to AN, BN	0.5	-	8.0	
tPHZ, tPLZ	Line Disable Time - SEL to AN, BN	0.5	-	4.0	
tb-b	Bit-to-bit skew		8		ps
tch-ch	Channel-to-channel skew		45		ps

Note:

- For max. or min. conditions, use appropriate value specified under Electrical Characteristics for the applicable device type.

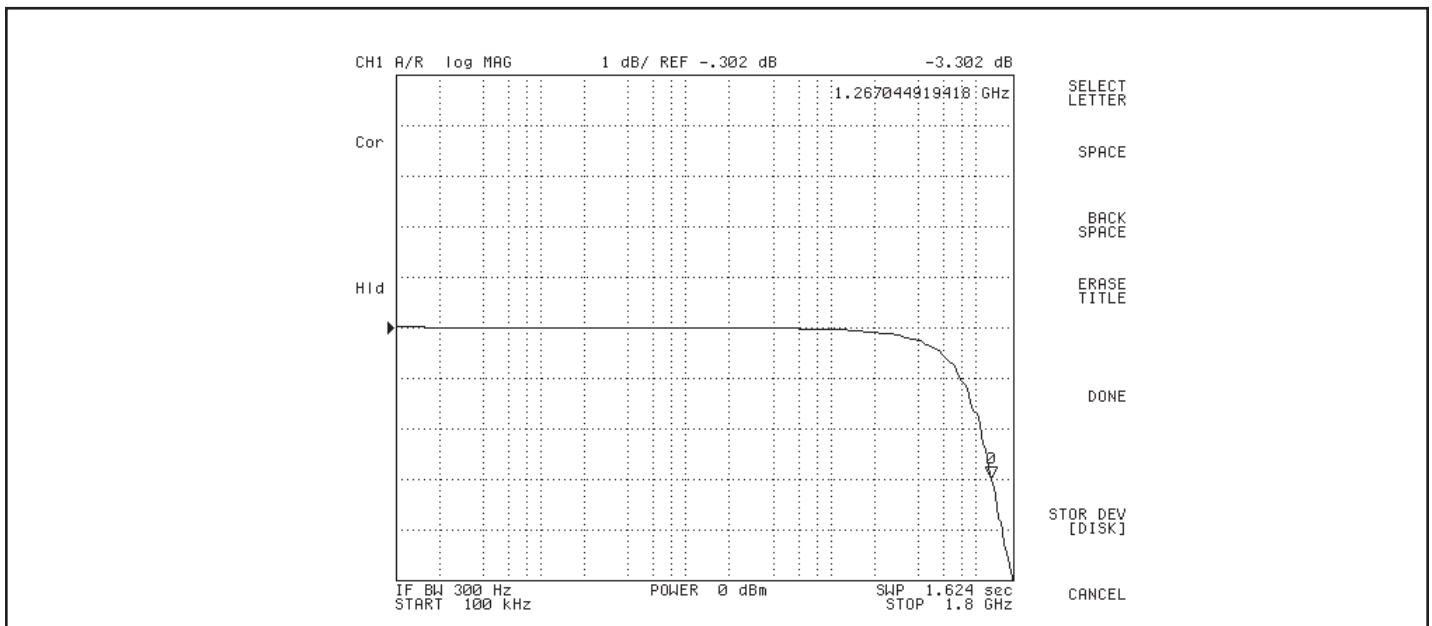
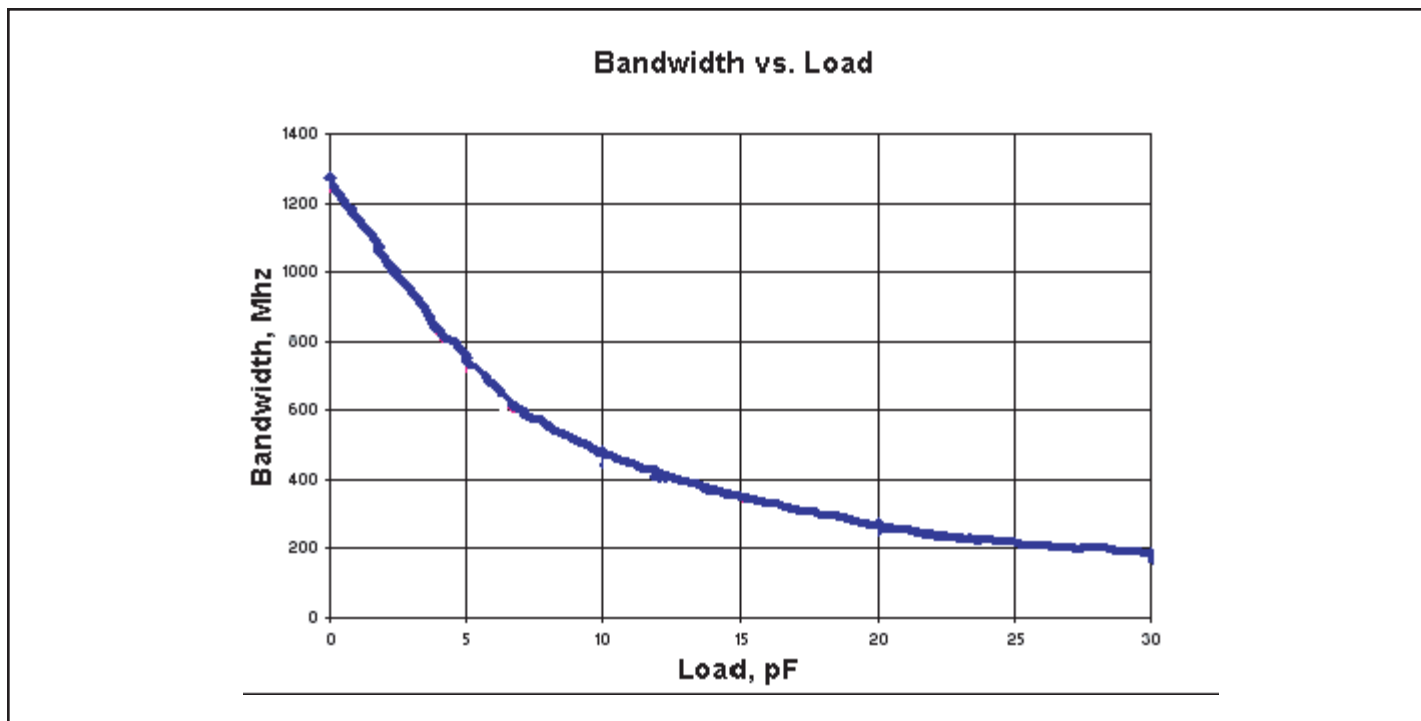
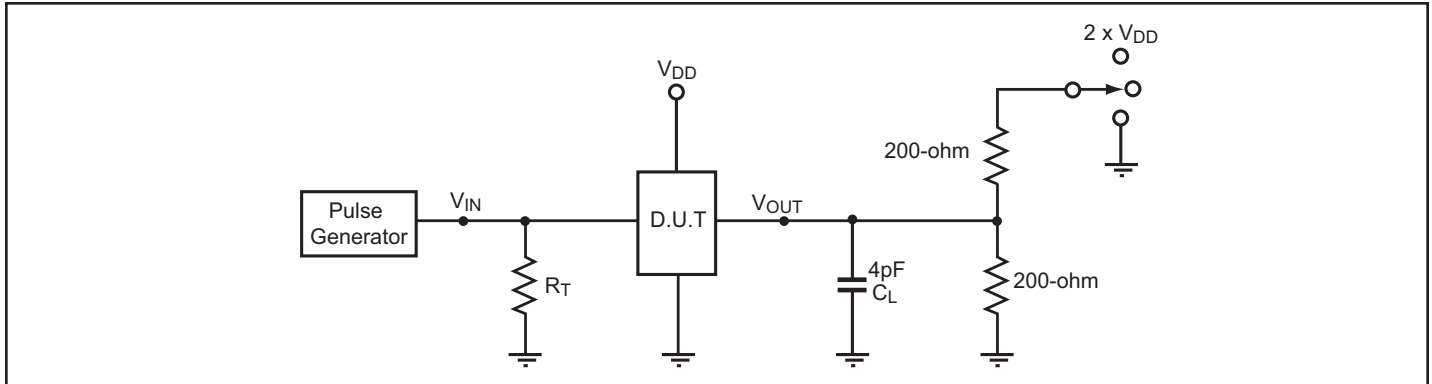


Fig 5. Bandwidth,  $V_{DD} = 1.8\text{V}$ ,  $25^\circ\text{C}$



**Fig 6. Bandwidth vs. Load**

### Test Circuit for Electrical Characteristics<sup>(1)</sup>



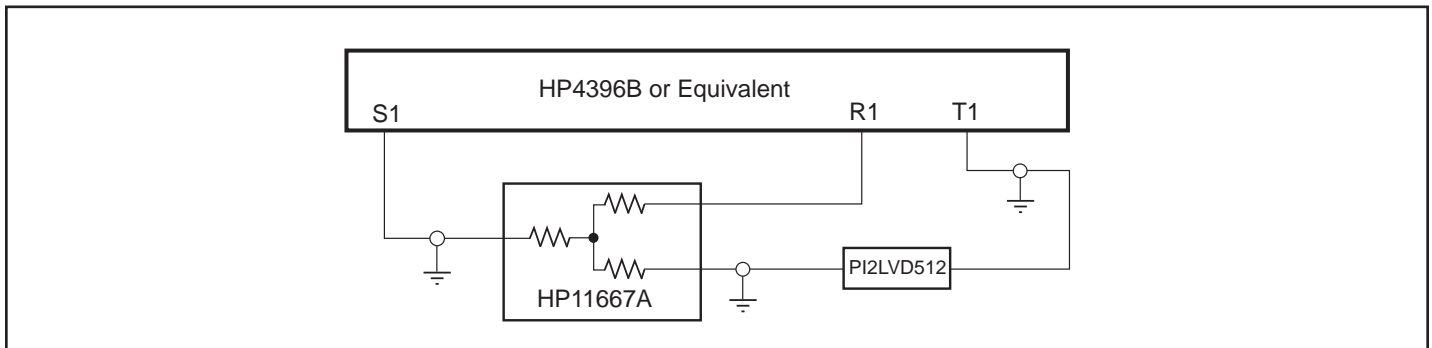
#### Notes:

1.  $C_L$  = Load capacitance: includes jig and probe capacitance.
2.  $R_T$  = Termination resistance: should be equal to  $Z_{OUT}$  of the Pulse Generator
3. Waveform 1 is for an output with internal conditions such that the output is low except when disabled by the output control.  
Waveform 2 is for an output with internal conditions such that the output is high except when disabled by the output control.
4. All input impulses are supplied by generators having the following characteristics:  $PRR \leq \text{MHz}$ ,  $Z_O = 50\Omega$ ,  $t_R \leq 2.5\text{ns}$ ,  $t_F \leq 2.5\text{ns}$ .
5. The outputs are measured one at a time with one transition per measurement.

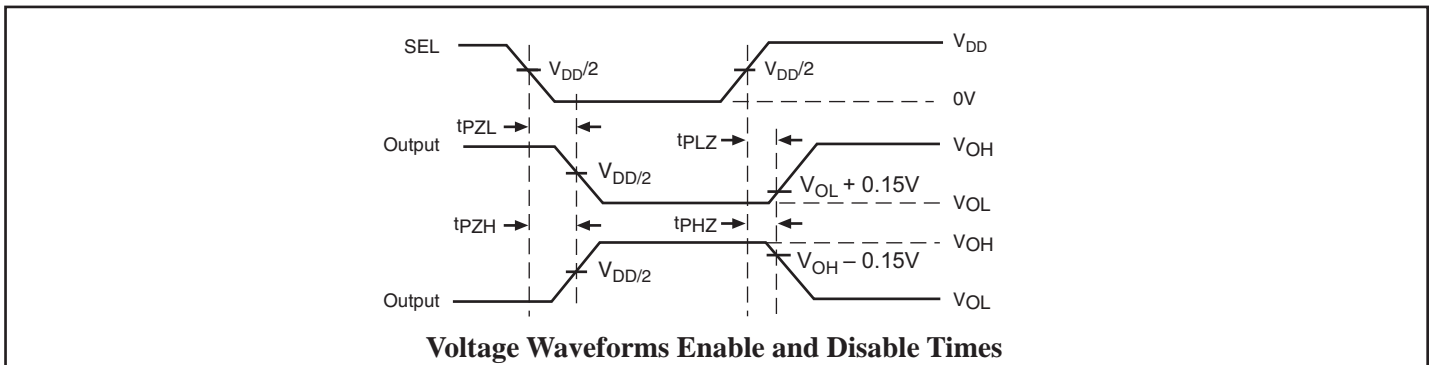
### Switch Positions

Test	Switch
$t_{PLZ}$ , $t_{PZL}$ (output on B-side)	$2 \times V_{DD}$
$t_{PHZ}$ , $t_{PHZ}$ (output on B-side)	GND

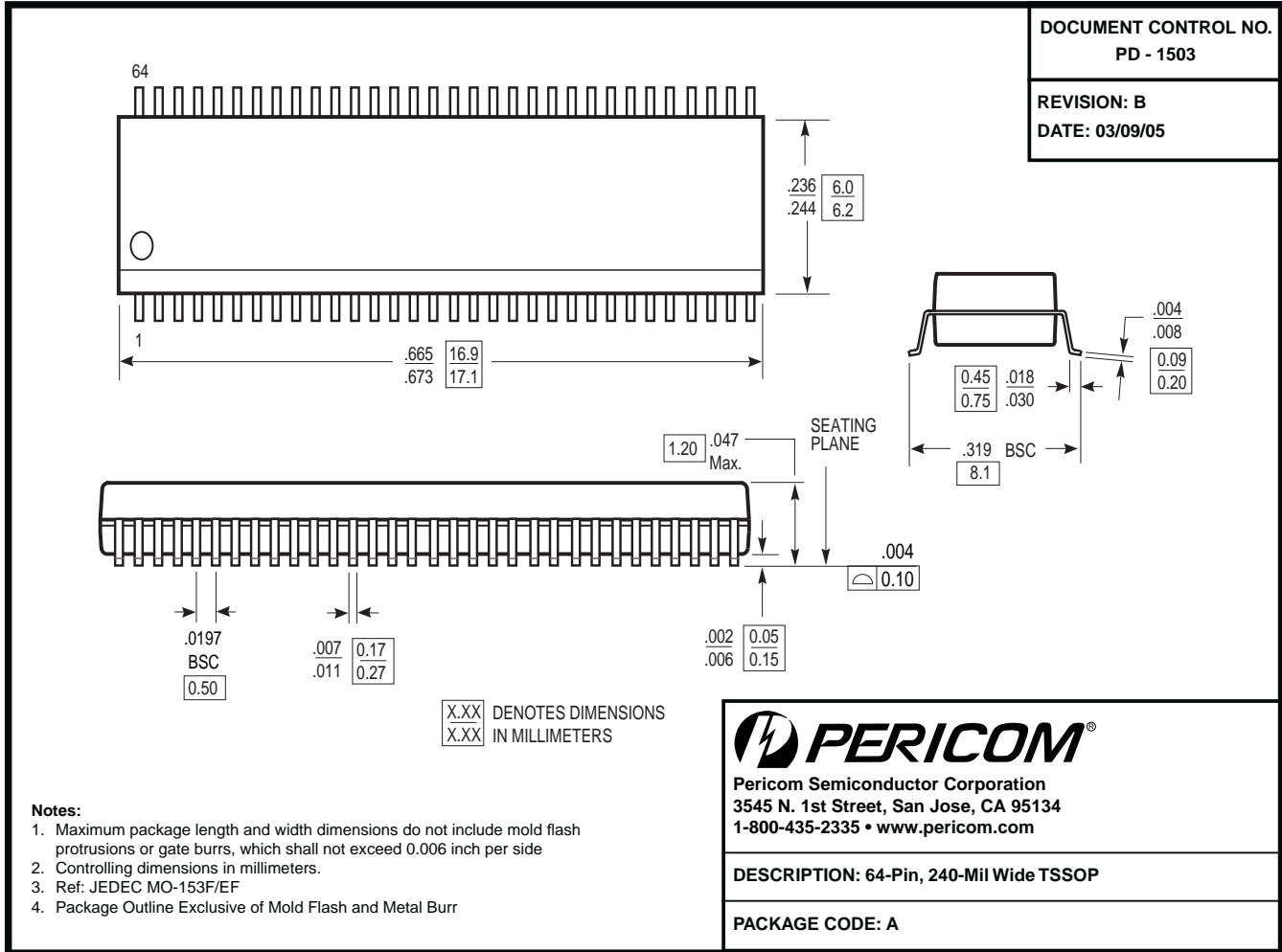
### Test Circuit for Dynamic Electrical Characteristics



### Switching Waveforms



Packaging Mechanical: 64-pin TSSOP (A)



Ordering Information

Ordering Code	Package Code	Package Description
PI2LVD512AE	AE	Pb-free and Green, 64-Pin TSSOP

Notes:

- Thermal characteristics can be found on the company web site at [www.pericom.com/packaging/](http://www.pericom.com/packaging/)
- E = Pb-free and Green
- X suffix = Tape/Reel