

**SOT1NY™ Low Voltage, Zero-Delay,  
Active Transmission Line Clamp**
**Features**

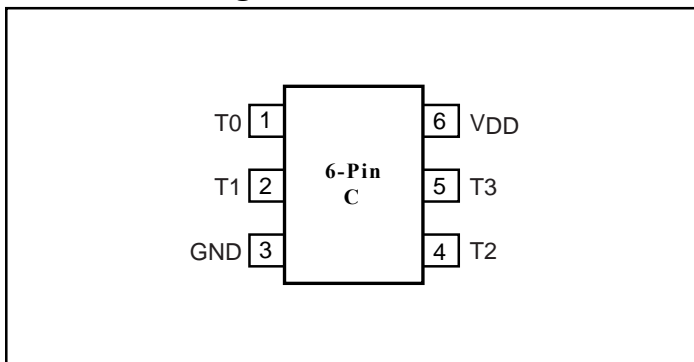
- 5V and 3.3V Line Clamping
- Near Zero Quiescent Supply Current: 10 $\mu$ A Maximum
  - Active circuit clamping
- Low Capacitance: 5pF (typ.)
- High 4kV ESD Protection
- Packaging (Pb-free & Green Available):
  - 6-pin SC70 (C)

**Benefits**

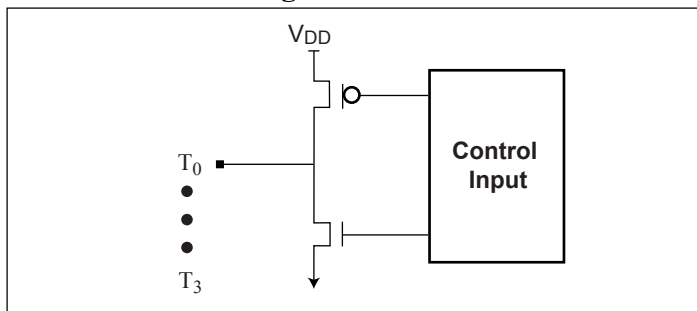
- Reduced EMI
  - Limits high-frequency ring voltage
- Minimum Power Consumption
- Higher Noise Margin
- Minimal Line Loading

**Applications**

- CPU Termination
- Backplane Termination
- Termination

**Product Pin Configuration**

**Product Pin Description**

Pin Number	Name	Description
<b>6-pin, SC70</b>		
1	T0	Line Termination
2	T1	Line Termination
4	T2	Line Termination
5	T3	Line Termination
3	GND	Ground
6	V <sub>DD</sub>	Positive Supply Voltage

**Functional Block Diagram**


### Absolute Maximum Ratings

DC Voltage on Any Pin	6.5V
Storage Temperature	-65°C to 150°C
Lead Temperature (Soldering, 10 seconds)	300°C
<b>Thermal Information</b>	
MSOP Continuous Power Dissipation: derate 8.7mW/°C above 70°C)	650mW
SC70/SOT23 Continuous Power Dissipation: derate 7.0mW/°C above 70°C)	550mW

### Electrical Characteristics

$V_{DD} = 5V$  Over Operating Temperature Range, unless otherwise noted.

Parameter	Symbol	Conditions	Temp	Min.	Typ	Max.	Units
Line Signal Voltage Above $V_{DD}$		Note 2			0.6		V
Line Signal Voltage Below GND		Note 2			-0.6		
Input Line Capacitance	$C_I$	Line Voltage = $V_{DD}$	25		5		pF
Input High Current	$I_{IH}$	$V_{LINE} = V_{DD}$ , $V_{DD} = 5.5V$				5	$\mu A$
Input Low Current	$I_{IL}$	$V_{LINE} = 0V$ , $V_{DD} = 5.5V$				5	
Supply Voltage Range	$V_{DD}$			4.5		5.5	V
Quiescent Supply Current	$I_{DD}$	All lines floating				20	$\mu A$
ESD Protection		MIL-STD-883, Method 3015			4		kV

$V_{DD} = 3.3V$  Over Operating Temperature Range, unless otherwise noted.

Parameter	Symbol	Conditions	Temp	Min.	Typ.	Max.	Units
Line Signal Voltage Above $V_{DD}$		Note 2			0.6		V
Line Signal Voltage Below GND		Note 2			-0.6		
Input Line Capacitance	$C_I$	Line Voltage = $V_{DD}$	25		5		pF
Input High Current	$I_{IH}$	$V_{LINE} = V_{DD}$ , $V_{DD} = 3.6V$				3	$\mu A$
Input Low Current	$I_{IL}$	$V_{LINE} = 0V$ , $V_{DD} = 3.6V$				3	
Supply Voltage Range	$V_{DD}$			3.0		3.6	V
Quiescent Supply Current	$I_{DD}$	All lines floating				20	$\mu A$
ESD Protection		MIL-STD-883, Method 3015			4		kV

#### Notes:

1. Capacitance and ESD parameters are guaranteed by design.
2. Maximum line voltage clamped during a transient.

### Application Information

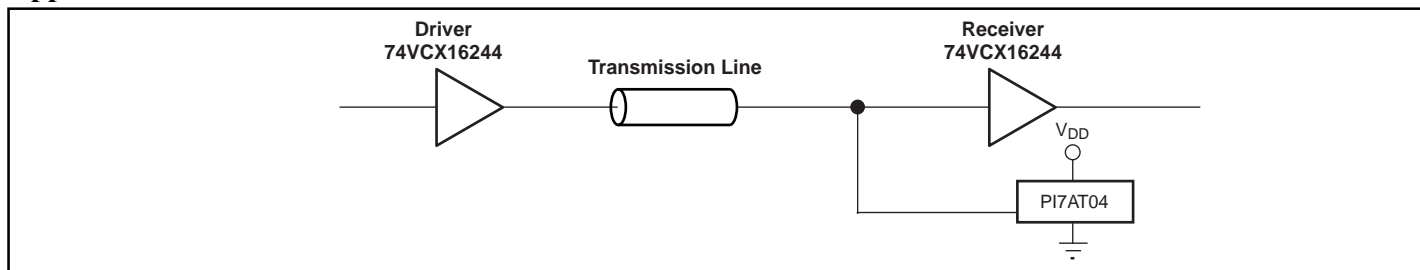


Figure 1. Test Diagram



Figure 2. VCX16244 (V<sub>cc</sub> = 3.6V) output after driving 3-inch transmission line. Signal capture at end of line

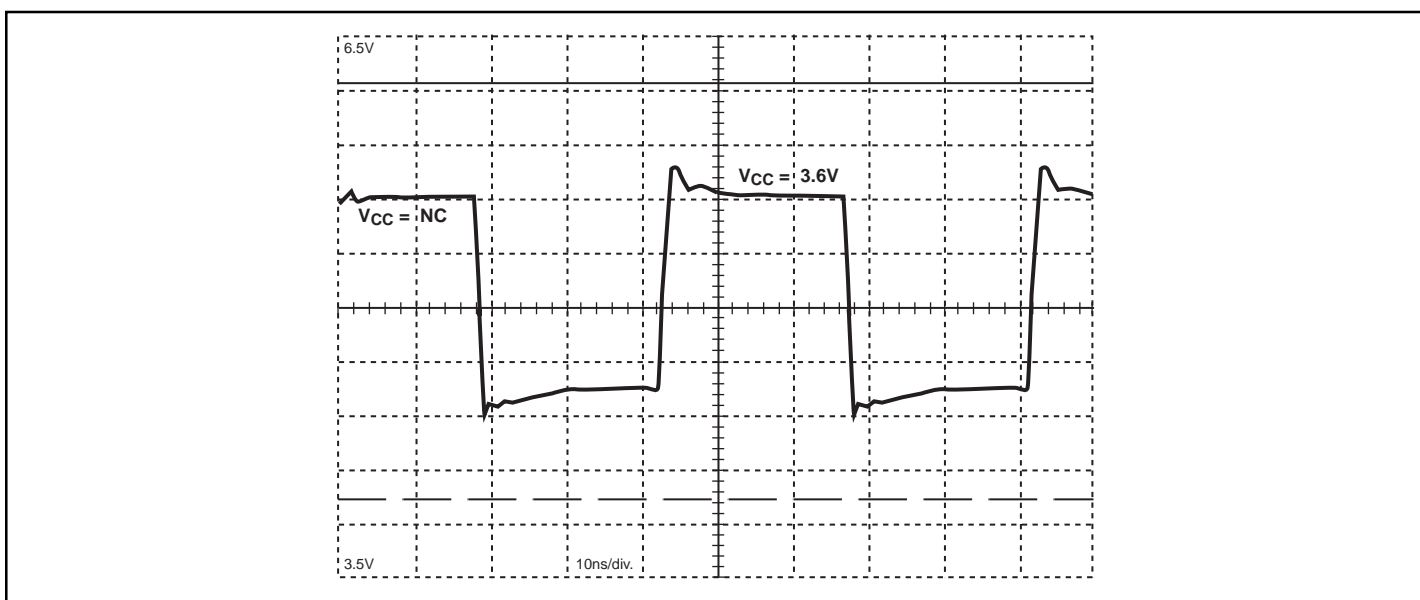
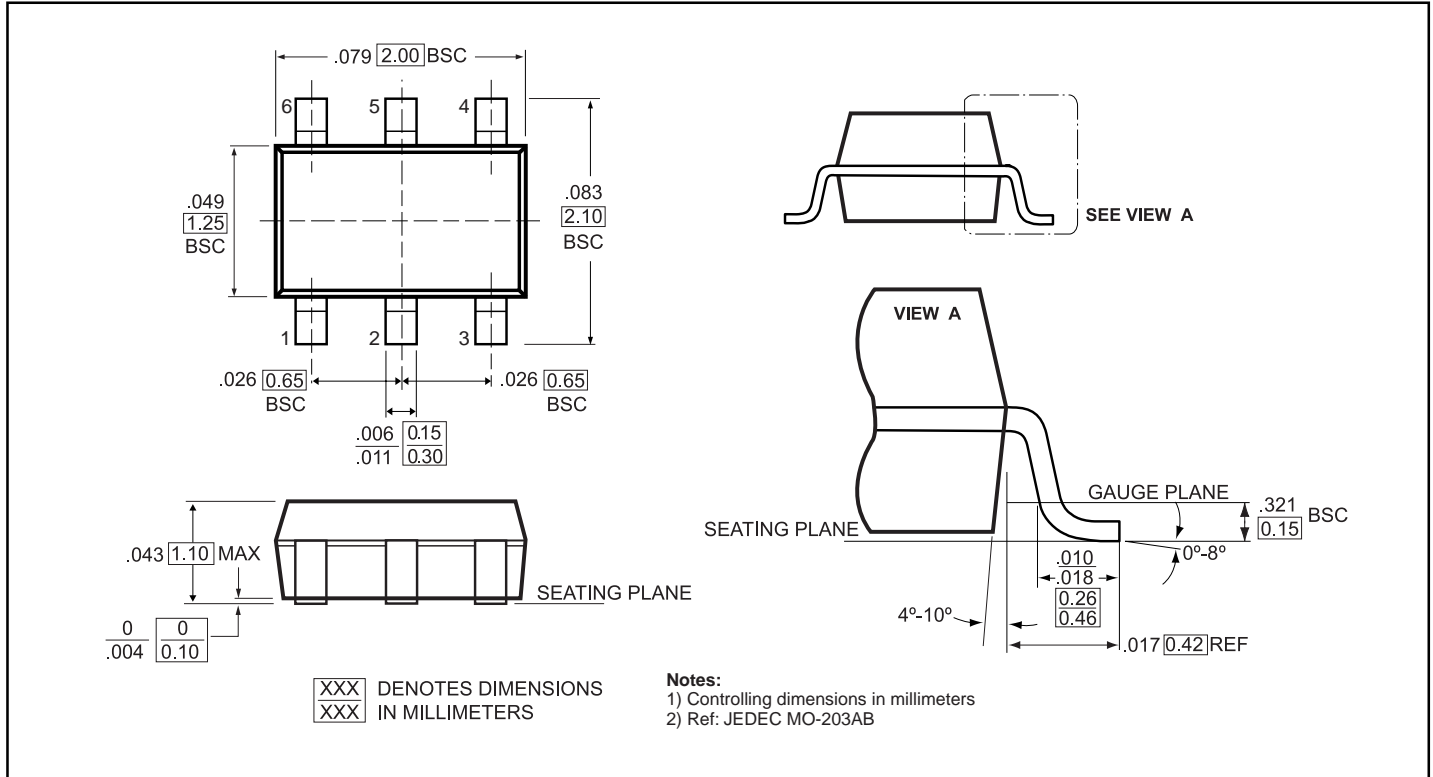


Figure 3. VCX16244 (V<sub>cc</sub> = 3.6V) output after driving 3-inch transmission line and driving PI7AT04 input. Signal as seen at the input pin. Signal capture when V<sub>cc</sub> in NC, V<sub>cc</sub> = 3.6V.

**Packaging Mechanical: 6-Pin SC70 (C)**



**Ordering Information**

Ordering Code	Line Terminations	Package Code	Package Description	Top Marking
PI7AT04CX	4	C	6-pin SC70	Z9
PI7AT04CEX	4	C	6-pin SC70	$\bar{Z}9$

**Notes:**

1. Thermal Characteristics can be found on the world wide web at [www.pericom.com/packaging/](http://www.pericom.com/packaging/)
2. X = Tape and reel