

## CHANGE NOTIFICATION



Linear Technology Corporation  
1630 McCarthy Blvd., Milpitas, CA 95035-7417  
(408) 432-1900

June 10, 2015

Dear Sir/Madam:

PCN# 061015

**Subject: Notification of Change to LT1796 Datasheet**

Please be advised that Linear Technology Corporation has made a minor change to the LT1796 product datasheet to facilitate improvement in our manufacturing yield. The change is shown on the attached page of the marked up datasheet. There was no change in form, fit, function, quality or reliability of the product. The product shipped after August 10, 2015 will be tested to the new limits.

Should you have any further questions or concerns please contact your local Linear Technology Sales person or you may contact me at 408-432-1900 ext. 2077, or by e-mail at [jason.hu@linear.com](mailto:jason.hu@linear.com). If I do not hear from you by August 10, 2015, we will consider this change to be approved by your company.

Sincerely,

Jason Hu  
Quality Assurance Engineer

**DC ELECTRICAL CHARACTERISTICS** The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at  $T_A = 25^\circ\text{C}$ .  $V_{CC} = 4.75\text{V}$  to  $5.25\text{V}$ ,  $V_{RS} = 0\text{V}$  unless otherwise noted.

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS	
$V_{TH}$	Differential Input Threshold Voltage for Receiver	$V_{RS} = 0\text{V}$ , $-7\text{V} < V_{CM} < 12\text{V}$	●	0.5	0.9	V	
		$V_{RS} = 5\text{V}$ , $-7\text{V} < V_{CM} < 12\text{V}$	●	0.5	0.9	V	
$\Delta V_{TH}$	Receiver Input Hysteresis	$-7\text{V} < V_{CM} < 12\text{V}$		70		mV	
$V_{OH}$	Receiver Output High Voltage	$V_{CC} = 4.75\text{V}$ , $I_O = -400\mu\text{A}$ , $V_{ID} = 500\text{mV}$	●	3	3.6	V	
$V_{OL}$	Receiver Output Low Voltage	$V_{CC} = 4.75\text{V}$ , $I_O = 1.6\text{mA}$ , $V_{ID} = 900\text{mV}$	●	0.15	0.4	V	
$I_{SCR}$	Receiver Short-Circuit Current	$0\text{V} < V_O < V_{CC}$ , $V_{CC} = 5.25\text{V}$	●	7	20	85	mA
$V_{REF}$	Reference Output Voltage	$-100\mu\text{A} < I_{REF} < 100\mu\text{A}$	●	2.25	2.5	2.7	V
$V_{REFSC}$	Reference Output Short-Circuit Current	$0 < V_{REF} < V_{CC}$	●	-20		20	mA
$V_{RSSB}$	$R_S$ Pin Standby Threshold	$V_{CC} = 5\text{V}$	●	2.5	2.8	4	V
$I_{RS}$	$R_S$ Input Current	$V_{RS} = 5\text{V}$ , $V_{CC} = 5\text{V}$	●		0.1	10	$\mu\text{A}$
		$V_{RS} = 0\text{V}$ , $V_{CC} = 5\text{V}$	●	-270	-200	-140	$\mu\text{A}$
		$R_S = 47\text{k}$ , $V_{CC} = 5\text{V}$	●	-90	-60	-40	$\mu\text{A}$
$I_{CC}$	Supply Current	Dominant	●		4.3	7	mA
		Recessive	●		3.8	7	mA
		Standby	●		0.8	1.5	mA

**SWITCHING CHARACTERISTICS** The ● denotes the specifications which apply over the full operating temperature range.  $V_{RS} = 0\text{V}$  unless otherwise noted. (Note 2)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS	
$t_{BIT}$	Minimum Bit Time	(Note 3)	●		8	$\mu\text{s}$	
$F_{MAX}$	Maximum Data Rate	(Note 3)	●	125		kbps	
$t_{TXDON}$	Driver Input to Bus Active	Figures 1, 2	●	300	500	ns	
		$R_S = 47\text{k}$			1000	ns	
$t_{TXDOFF}$	Driver Input to Bus Inactive	Figures 1, 2	●	500	<del>400</del> 1200	ns	
		$R_S = 47\text{k}$			1500	ns	
$t_{LBON}$	Loopback Delay Active	Figures 1, 3	●	0.6	1.5	$\mu\text{s}$	
$t_{LBOFF}$	Loopback Delay Inactive	Figures 1, 3	●	1.5	3	$\mu\text{s}$	
$t_{RXDOFF}$	Receiver Delay Off	Figures 1, 4	●	400	600	ns	
$t_{RXDON}$	Receiver Delay On	Figures 1, 4	●	300	600	ns	
$t_{RXDOFFSB}$	Receiver Delay Off, Standby	$V_{RS} = 4\text{V}$ , Figures 1, 4	●	1.5	4	$\mu\text{s}$	
$t_{RXDONSb}$	Receiver Delay On, Standby	$V_{RS} = 4\text{V}$ , Figures 1, 4	●	1	4	$\mu\text{s}$	
$t_{WAKE}$	Wake-Up Delay from Standby	Figures 1, 5	●	1	15	$\mu\text{s}$	
$SR^+$	Positive Slew Rate	$R_S = 0\text{k}$	●	5	12	65	V/ $\mu\text{s}$
		$R_S = 47\text{k}$	●	2	7	30	V/ $\mu\text{s}$
$SR^-$	Negative Slew Rate	$R_S = 0\text{k}$	●	5	36	65	V/ $\mu\text{s}$
		$R_S = 47\text{k}$	●	2	5	15	V/ $\mu\text{s}$

**Note 1:** Absolute Maximum Ratings are those values beyond which the life of the device may be impaired.

**Note 2:** Unless otherwise specified, testing done at  $V_{CC} = 5\text{V}$ ,  $T_A = 25^\circ\text{C}$ .

**Note 3:** Bit time and data rate specifications are guaranteed by driver and receiver delay time measurements.