CHANGE NOTIFICATION

Linear Technology Corporation
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April 28, 2015

Dear Sir/Madam: PCN# 042815

Subject: Notification of Change to LTC2850, LTC2851, LTC2852, LTC2854, LTC2855 Datasheet

Please be advised that Linear Technology Corporation has made a minor change to the subject product datasheets to facilitate the improvement of manufacturing yield on H grade version of the product. The changes are shown on the attached pages of the marked up datasheet. There was no change in form, fit, function, quality or reliability of the product. The product shipped after June 29, 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. If I do not hear from you by June 29, 2015, we will consider this change to be approved by your company.

Sincerely,

Jason Hu
Quality Assurance Engineer

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_A = 25°C. V_{CC} = 3.3V, unless otherwise noted. (Note 2)

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
Driver							
$\|V_{OD}\|$	Differential Driver Output Voltage	R = ∞, V_{CC} = 3V (Figure 1) R = 27Ω, V_{CC} = 3V (Figure 1) R = 50Ω, V_{CC} = 3.13V (Figure 1)	● ● ●	 1.5 2		V_{CC} V_{CC} V_{CC}	V V V
$\Delta\|V_{OD}\|$	Difference in Magnitude of Driver Differential Output Voltage for Complementary Output States	R = 27Ω or 50Ω (Figure 1)	●			0.2	V
V_{OC}	Driver Common Mode Output Voltage	R = 27Ω or 50Ω (Figure 1)	●			3	V
$\Delta\|V_{OC}\|$	Difference in Magnitude of Driver Common Mode Output Voltage for Complementary Output States	R = 27Ω or 50Ω (Figure 1)	●			0.2	V
I_{OZD}	Driver Three-State (High Impedance) Output Current on Y and Z	DE = 0V, (Y or Z) = –7V, 12V (LTC2852) H-Grade	● ●			±10 ±50	µA µA
I_{OSD}	Maximum Driver Short-Circuit Current	–7V ≤ (Y or Z) ≤ 12V (Figure 2)	 ●	 –250	±180	±250 300	mA mA
Receiver							
I_{IN}	Receiver Input Current (A, B)	DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = 12V (Figure 3) (C, I-Grade) DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = –7V, (Figure 3) (C, I-Grade)	● ●	 –100		125 	µA µA
		DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = 12V (Figure 3) (H-Grade) DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = –7V, (Figure 3) (H-Grade)	● ●	 –145		250 	µA µA
R_{IN}	Receiver Input Resistance	$\overline{RE}$ = V_{CC} or 0V, DE = TE = 0V, V_{IN} = –7V, –3V, 3V, 7V, 12V (Figure 3) (C, I-Grade)	●	96	125		kΩ
		$\overline{RE}$ = V_{CC} or 0V, DE = TE = 0V, V_{IN} = –7V, –3V, 3V, 7V, 12V (Figure 3) (H-Grade)	●	48	125		kΩ
V_{TH}	Receiver Differential Input Threshold Voltage	–7V ≤ B ≤ 12V	●			±0.2	V
ΔV_{TH}	Receiver Input Hysteresis	B = 0V			25		mV
V_{OH}	Receiver Output High Voltage	I(RO) = –4mA, A-B = 200mV, V_{CC} = 3V	●	2.4			V
V_{OL}	Receiver Output Low Voltage	I(RO) = 4mA, A-B = –200mV, V_{CC} = 3V	●			0.4	V
I_{OZR}	Receiver Three-State (High Impedance) Output Current on RO	$\overline{RE}$ = V_{CC}, 0V ≤ RO ≤ V_{CC} (LTC2850, LTC2852)	●			±1	µA
I_{OSR}	Receiver Short-Circuit Current	0V ≤ RO ≤ V_{CC}	●			±85	mA
Logic							
V_{IH}	Logic Input High Voltage	V_{CC} = 3.6V	●	2			V
V_{IL}	Logic Input Low Voltage	V_{CC} = 3V	●			0.8	V
I_{INL}	Logic Input Current		●		0	±10	µA

used to be +/-10uA; now changed to +/-50uA

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_A = 25°C, V_{CC} = 3.3V unless otherwise noted (Note 2).

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
Driver							
$\|V_{OD}\|$	Differential Driver Output Voltage	R = ∞, V_{CC} = 3V (Figure 1)	●			V_{CC}	V
		R = 27Ω, V_{CC} = 3V (Figure 1)	●	1.5		V_{CC}	V
		R = 50Ω, V_{CC} = 3.13V (Figure 1)	●	2		V_{CC}	V
$\Delta\|V_{OD}\|$	Change in Magnitude of Driver Differential Output Voltage for Complementary Output States	R = 27Ω or R = 50Ω (Figure 1)	●			0.2	V
V_{OC}	Driver Common Mode Output Voltage	R = 27Ω or R = 50Ω (Figure 1)	●			3	V
$\Delta\|V_{OC}\|$	Change in Magnitude of Driver Common Mode Output Voltage for Complementary Output States	R = 27Ω or R = 50Ω (Figure 1)	●			0.2	V
I_{OZD}	Driver Three-State (High Impedance) Output Current on Y and Z	DE = 0V, (Y or Z) = –7V, 12V (LTC2855)	●			±10	µA
		H-Grade	●			±50	µA
I_{OSD}	Maximum Driver Short-Circuit Current	–7V ≤ (Y or Z) ≤ 12V (Figure 2)			180	±250	mA
			●	–250		300	mA
Receiver							
I_{IN}	Receiver Input Current (A, B)	DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = 12V (Figure 3) (C-, I-Grade)	●			125	µA
		DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = –7V, (Figure 3) (C-, I-Grade)	●	–100			µA
		DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = 12V (Figure 3) (H-Grade)	●			250	µA
		DE = TE = 0V, V_{CC} = 0V or 3.3V, V_{IN} = –7V, (Figure 3) (H-Grade)	●	–145			µA
R_{IN}	Receiver Input Resistance	$\overline{RE}$ = V_{CC} or 0V, DE = TE = 0V, V_{IN} = –7V, –3V, 3V, 7V, 12V (Figure 3) (C-, I-Grade)	●	96	125		kΩ
		$\overline{RE}$ = V_{CC} or 0V, DE = TE = 0V, V_{IN} = –7V, –3V, 3V, 7V, 12V (Figure 3) (H-Grade)	●	48	125		kΩ
V_{TH}	Receiver Differential Input Threshold Voltage	–7V ≤ B ≤ 12V	●			±0.2	V
ΔV_{TH}	Receiver Input Hysteresis	B = 0V			25		mV
V_{OH}	Receiver Output HIGH Voltage	I(RO) = –4mA, A-B = 200mV, V_{CC} = 3V	●	2.4			V
V_{OL}	Receiver Output LOW Voltage	I(RO) = 4mA, A-B = –200mV, V_{CC} = 3V	●			0.4	V
I_{OZR}	Receiver Three-State (High Impedance) Output Current on RO	$\overline{RE}$ = V_{CC}, 0V ≤ RO ≤ V_{CC}	●			±1	µA
I_{OSR}	Receiver Short-Circuit Current	0V ≤ RO ≤ V_{CC}	●			±85	mA
R_{TERM}	Receiver Input Terminating Resistor	TE = V_{CC}, V_{AB} = 2V, V_B = –7V, 0V, 10V (Figure 8)	●	108	120	156	Ω
Logic							
V_{IH}	Logic Input High Voltage	V_{CC} = 3.6V	●	2			V
V_{IL}	Logic Input Low Voltage	V_{CC} = 3V	●			0.8	V
I_{INL}	Logic Input Current		●		0	±10	µA
Supplies							
I_{CCS}	Supply Current in Shutdown Mode	DE = 0V, $\overline{RE}$ = V_{CC}, TE = 0V (C-, I-Grade)	●		0	5	µA
		(H-Grade)	●		0	15	µA
I_{CCR}	Supply Current in Receive Mode	DE = 0V, $\overline{RE}$ = 0V, TE = 0V	●		370	900	µA

used to be +/-10uA; now changed to +/-50uA