


SANYO Semiconductors

DATA SHEET

TND507S — ExPD (Excellent Power Device) Ballast, General Purpose Driver for Applications Including PDP Sustain Pulse Drive, DC / AC Motor Drive, Induction Heating, Battery Charger, High Frequency Switching Power Supply, and Switching Amplifiers

Features

- Monolithic structure.
- Single input and two output.
- Allows simplified configuration of driver circuit.
- Withstand voltage of 600V is assured.
- Built-in shutdown protection function.

Specifications

Absolute Maximum Ratings at Ta=25°C (All voltage parameters are absolute voltage referenced to GND)

Parameter	Symbol	Conditions	Ratings	Unit
High Side Floating Supply Absolute Voltage	V _H		-0.3 to 625	V
High Side Floating Supply Offset Voltage	V _{HFG}		V _H -25 to V _H +0.3	V
High Side Output Voltage	V _{HOUT}		V _{HFG} -0.3 to V _H +0.3	V
Low Side Fixed Supply Voltage	V _L		-0.3 to 25	V
Low Side Output Voltage	V _{LOUT}		-0.3 to V _L +0.3	V
Logic Input Voltage	V _{IN}		-0.3 to V _L +0.3	V
Allowable Power Dissipation	P _D		0.3	W
Junction Temperature	T _j		-55 to +150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

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Recommended Operating Conditions at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
High Side Floating Supply Absolute Voltage	V _H		V _{HFG} +10 to V _{HFG} +20	V
High Side Floating Supply Offset Voltage	V _{HFG}		0 to 600	V
High Side Output Voltage	V _{HOUT}		V _{HFG} to V _H	V
Low Side Fixed Supply Voltage	V _L		10 to 20	V
Low Side Output Voltage	V _{LOUT}		0 to V _L	V
Logic Input Voltage	V _{IN}		0 to V _L	V
Ambient Temperature	Ta		-40 to +125	°C

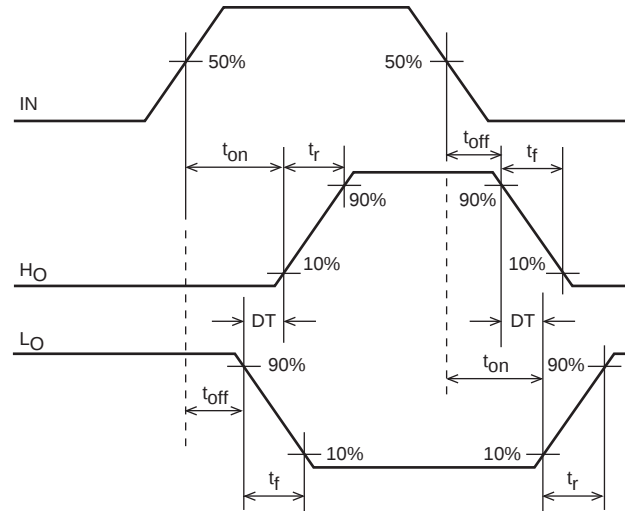
AC Characteristics at Ta=25°C (V_L=V_{HFG}=15V, C_L=1000pF)

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	t _{on}	V _{HFG} =0		950		ns
Turn-OFF Delay Time	t _{off}	V _{HFG} =600V		150		ns
Turn-ON Rise Time	t _r	C _L =1000pF		120		ns
Turn-OFF Fall Time	t _f	C _L =1000pF		60		ns
Delay Matching	MT	Ht _{on} -Lt _{on} , Ht _{off} -Lt _{off}		30		ns
Dead Time	DT			800		ns

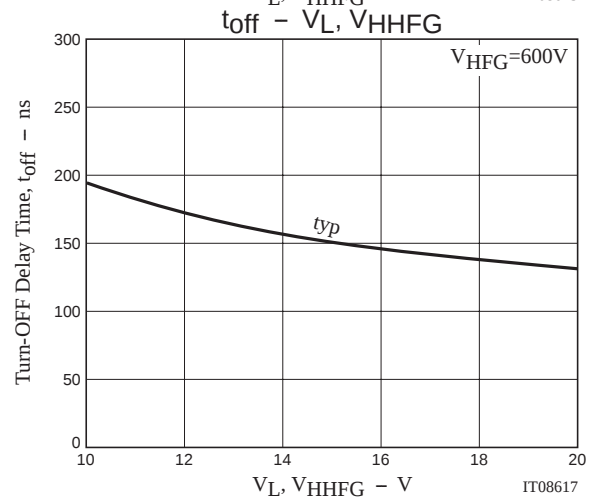
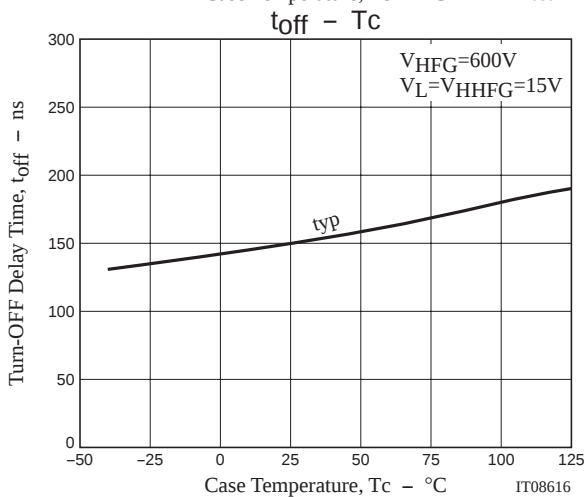
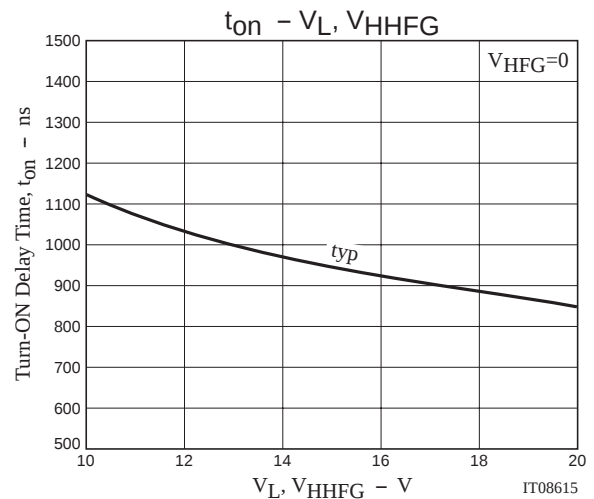
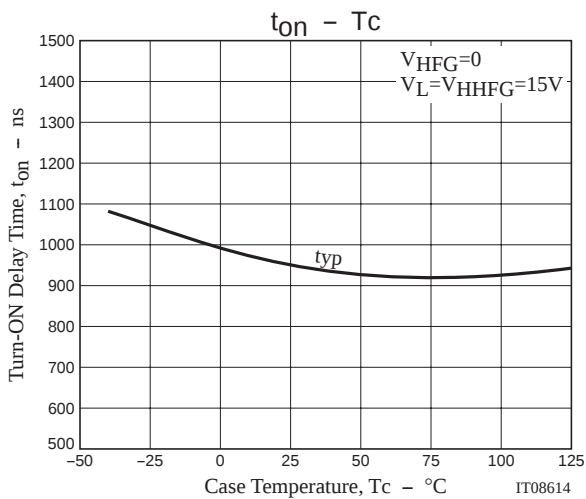
DC Characteristics at Ta=25°C (V_L=V_{HFG}=15V)

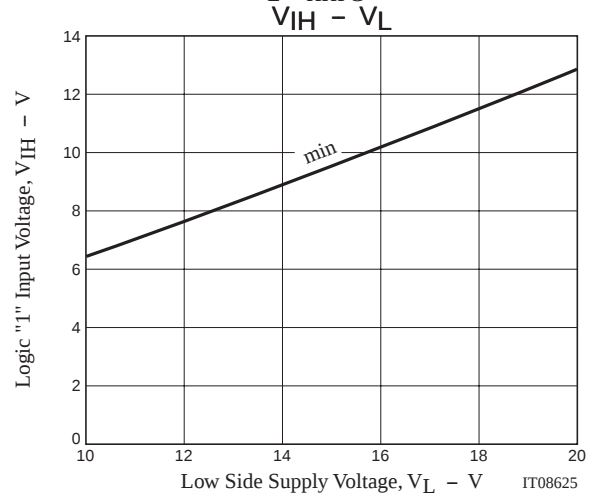
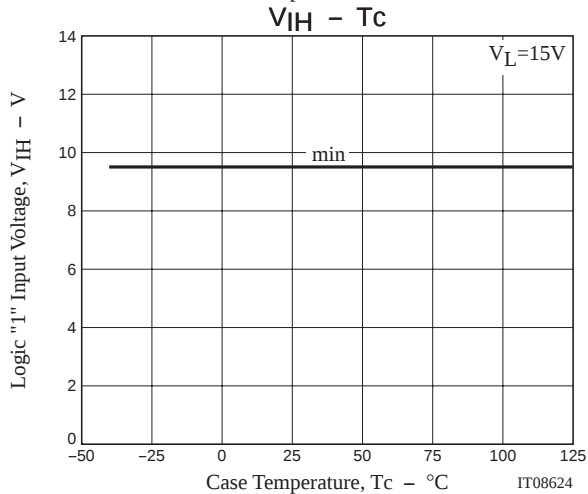
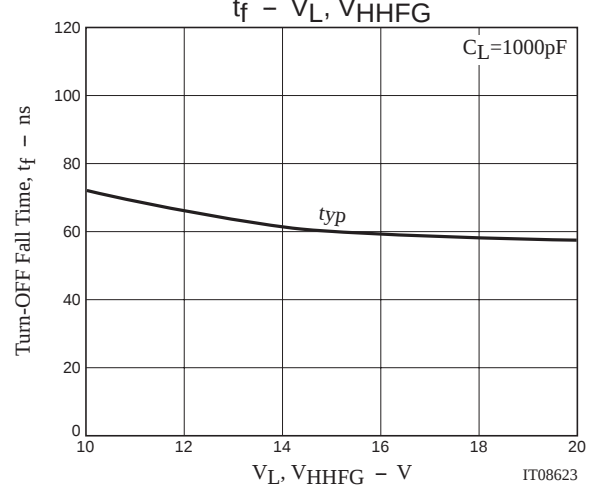
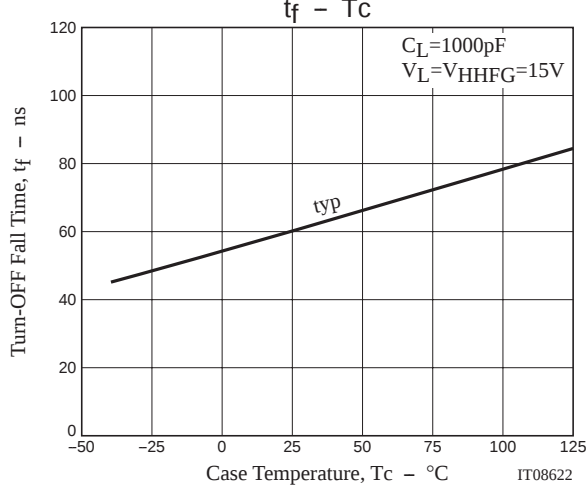
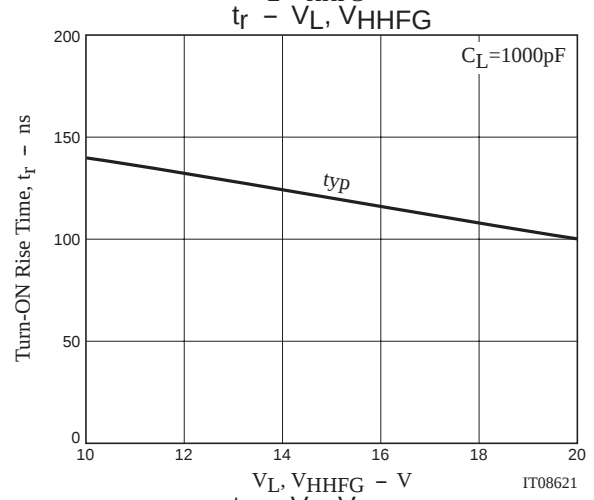
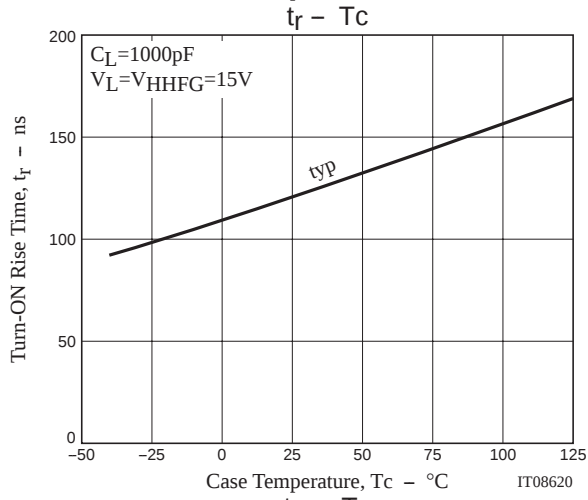
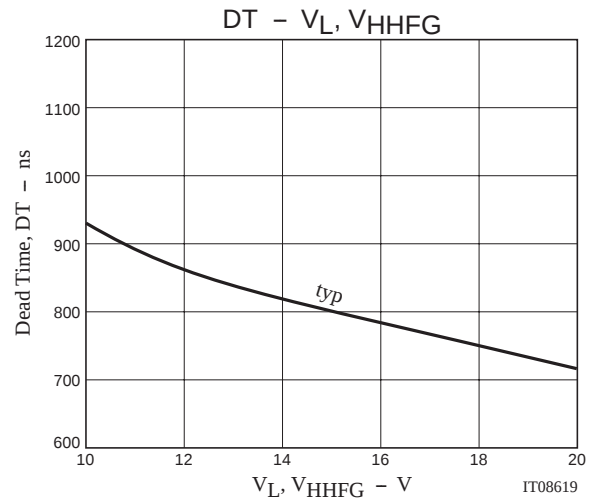
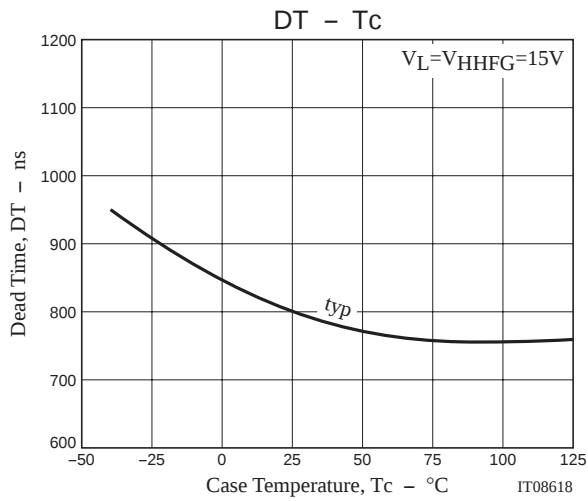
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Logic "1" Input Voltage	V _{IH}	V _L =10V	6.4			V
		V _L =15V	9.5			V
		V _L =20V	12.8			V
Logic "0" Input Voltage	V _{IL}	V _L =10V			3.7	V
		V _L =15V			5.8	V
		V _L =20V			7.7	V
High-level Output Voltage(V _{BIAS} -V _O)	V _{OH}	I _O =0			100	mV
Low-level Output Voltage(V _O)	V _{OL}	I _O =0			100	mV
Offset Supply Leakage Current	I _{LK}	V _H =V _{HFG} =600V			10	μA
Quiescent V _H Supply Current	I _{QH}	V _{IN} =0 or V _L		50	100	μA
Quiescent V _L Supply Current	I _{QL}	V _{IN} =0 or V _L		70	180	μA
Logic "1" Input Bias Current	I _{IN+}	V _{IN} =15V		20	40	μA
Logic "0" Input Bias Current	I _{IN-}	V _{IN} =0			1	μA
V _H Supply Undervoltage Positive Going Threshold	V _{HUV+}		7.6	8.9	9.9	V
V _H Supply Undervoltage Negative Going Threshold	V _{HUV-}		6.7	8.1	9.5	V
V _L Supply Undervoltage Positive Going Threshold	V _{LUV+}		7.6	8.9	9.9	V
V _L Supply Undervoltage Negative Going Threshold	V _{LUV-}		6.7	8.1	9.5	V
Output High Short Circuit Pulsed Current	I _{O+}	V _{OUT} =0, PW≤10μs	200	250		mA
Output Low Short Circuit Pulsed Current	I _{O-}	V _{OUT} =15V, PW≤10μs	420	500		mA

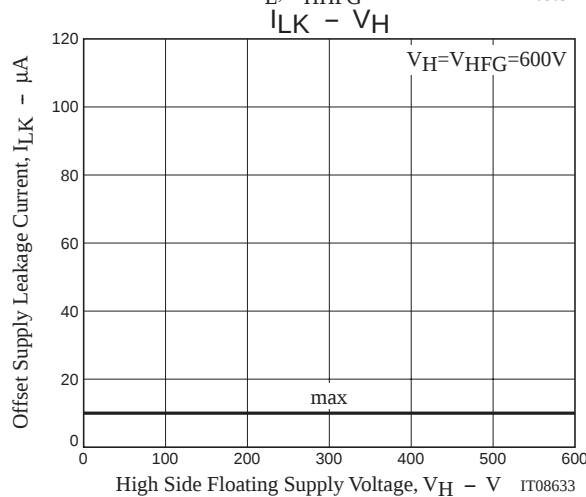
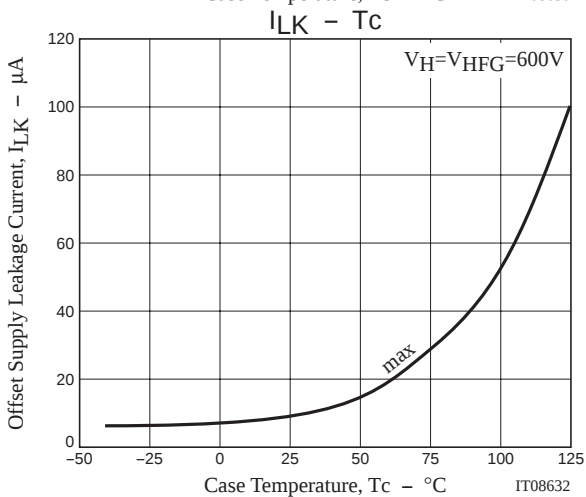
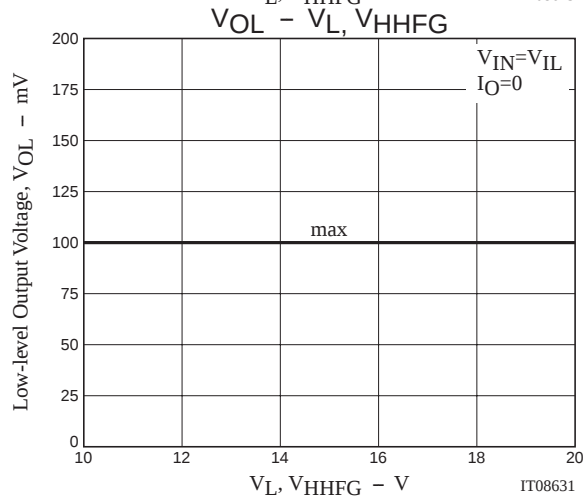
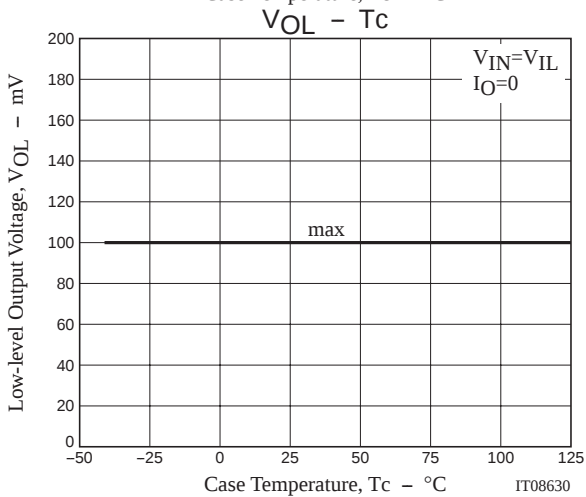
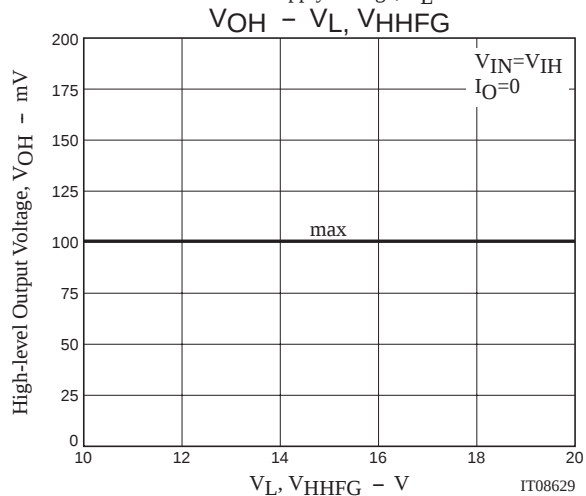
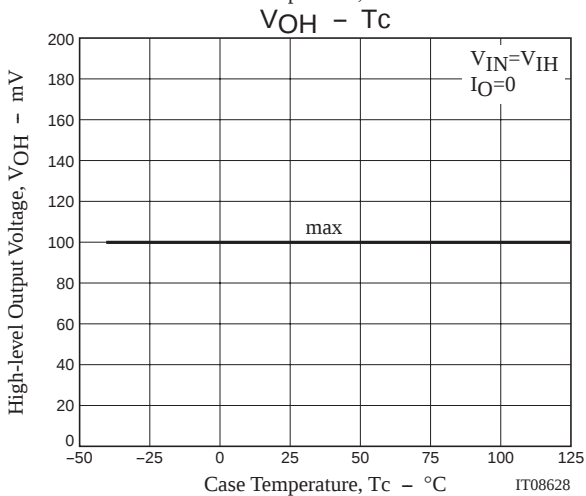
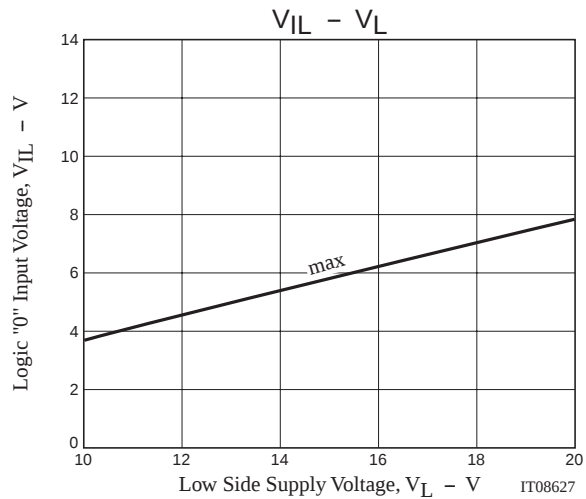
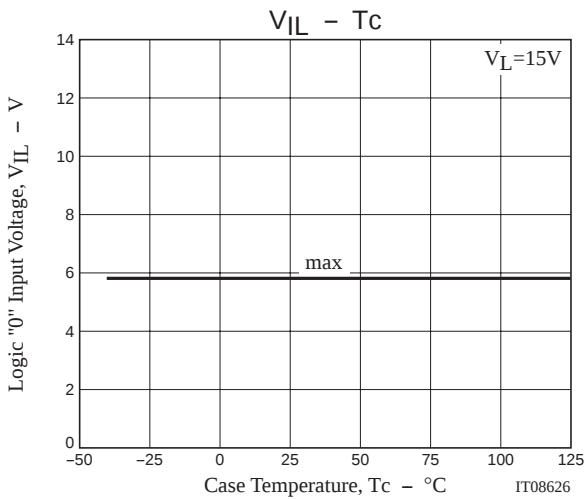
Switching Time Waveform Definition

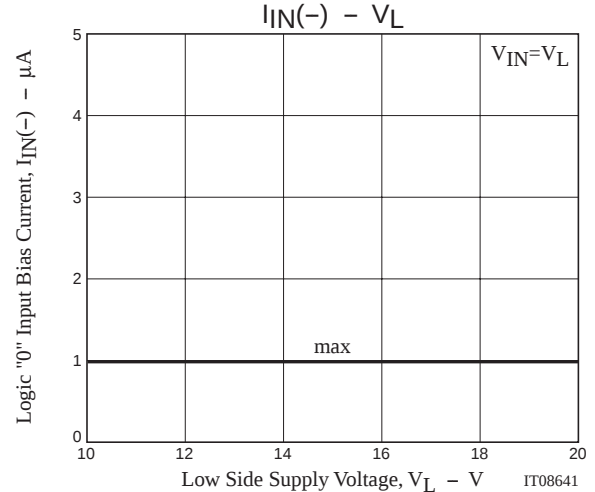
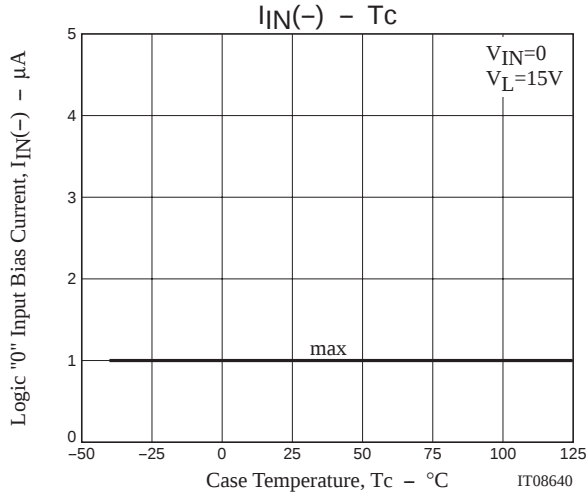
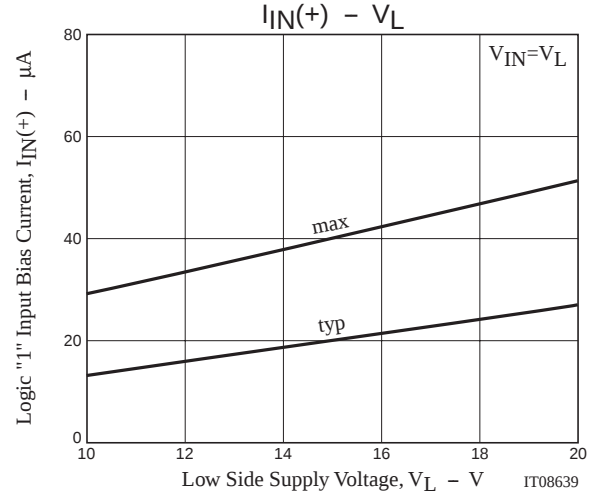
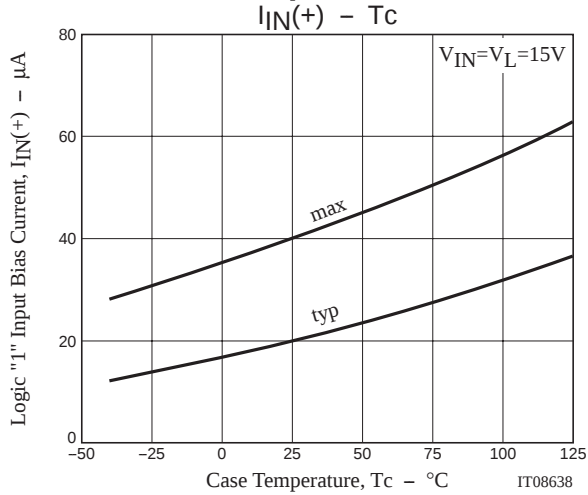
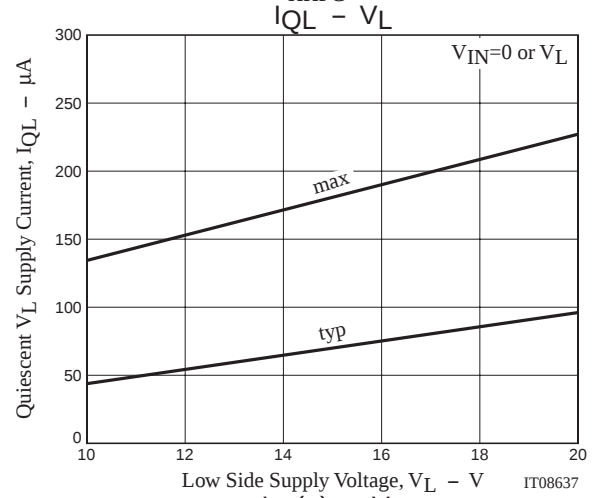
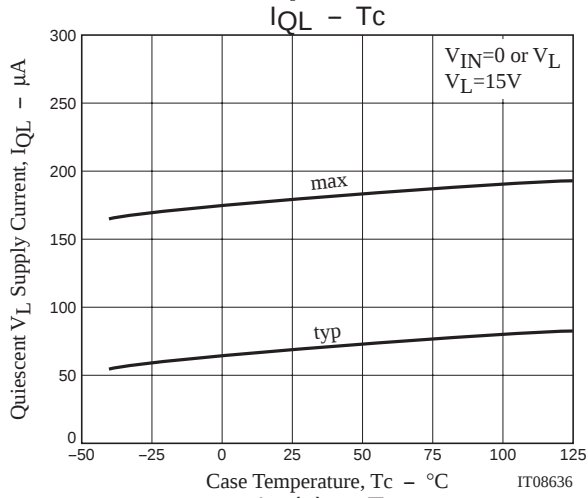
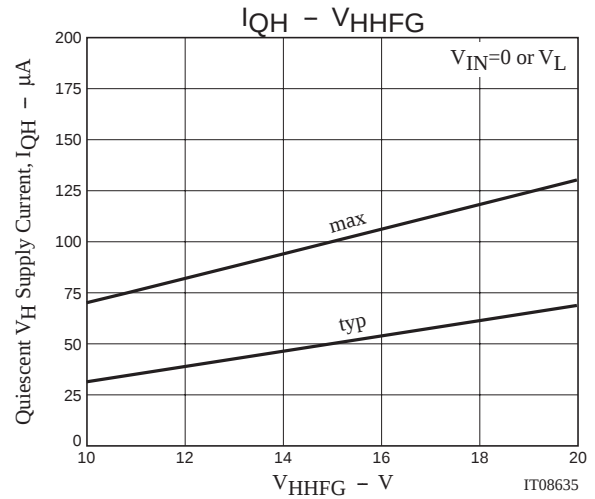
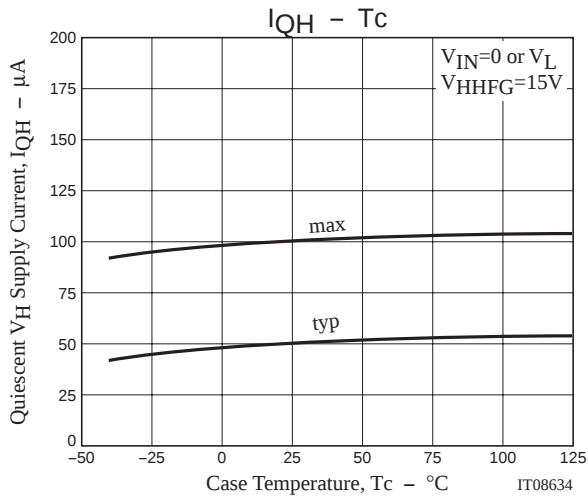


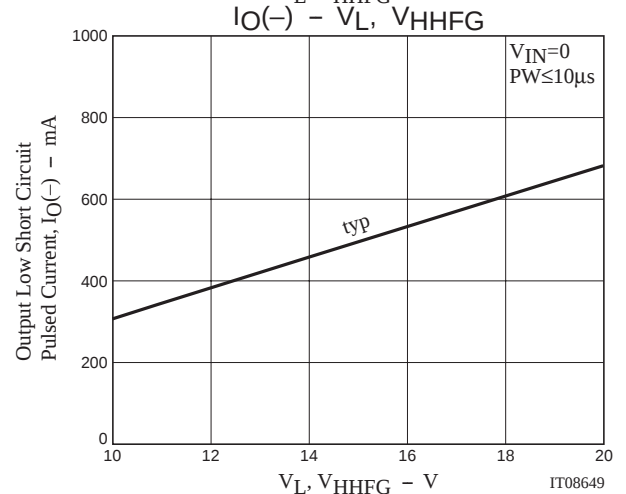
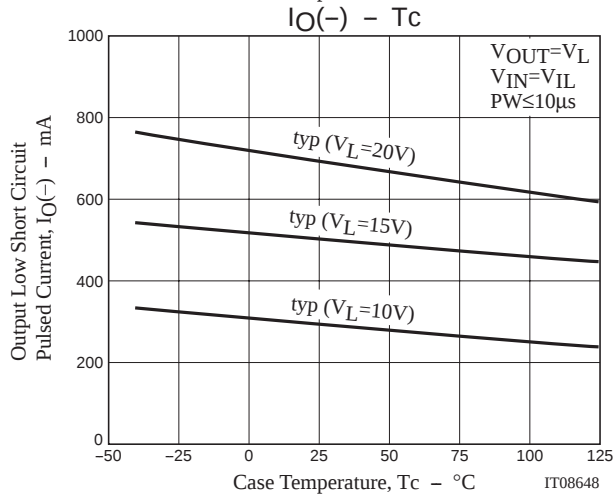
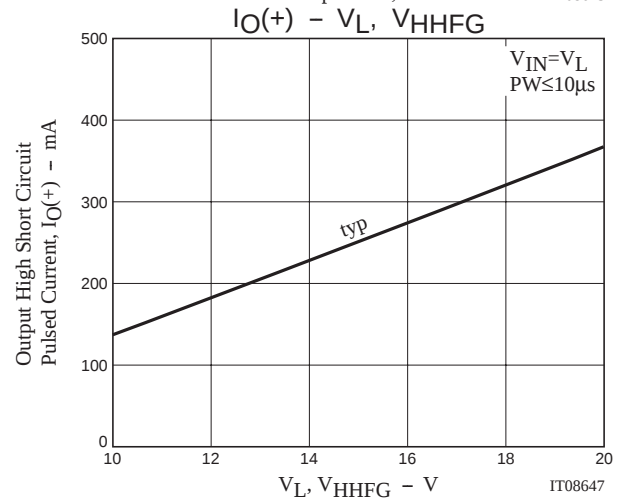
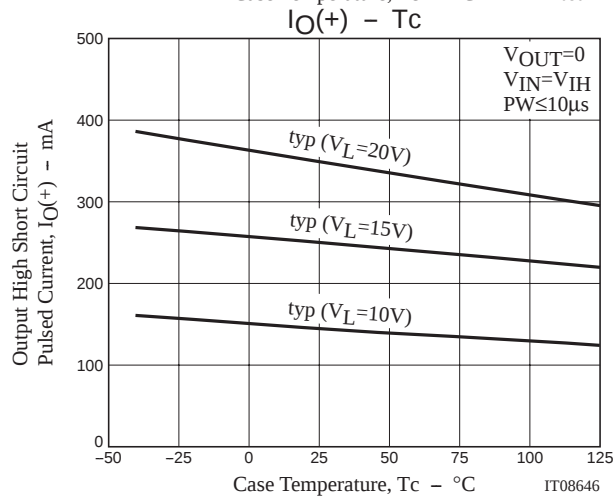
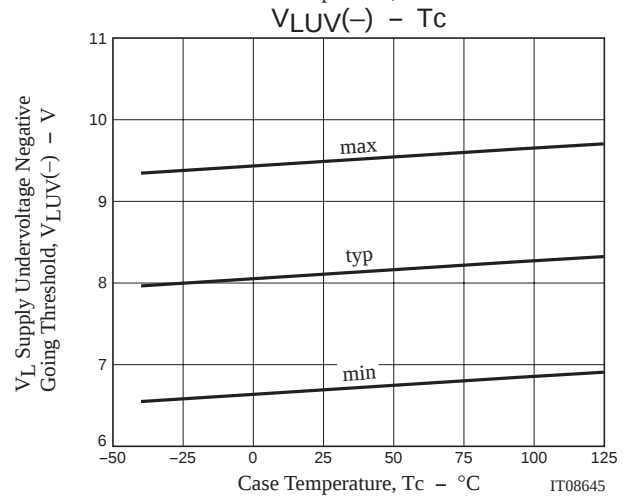
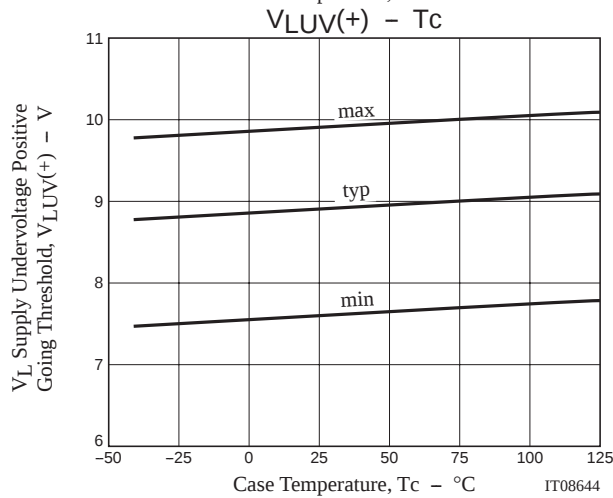
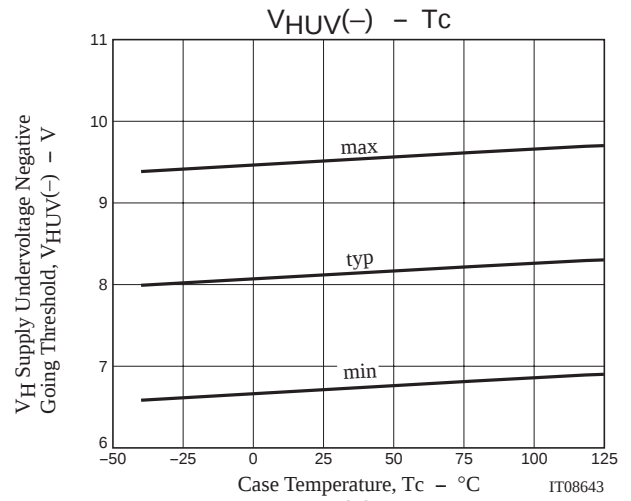
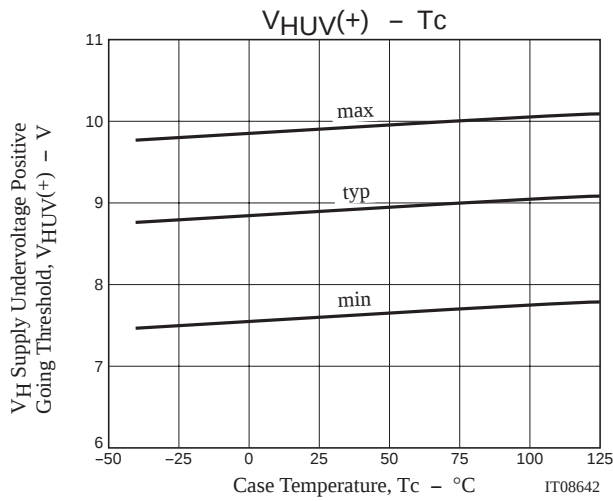
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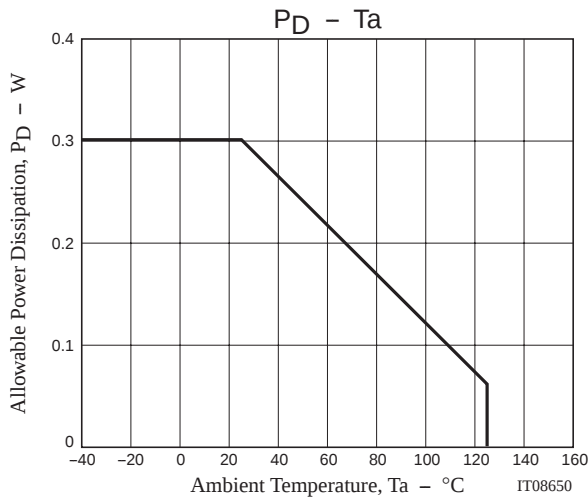












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