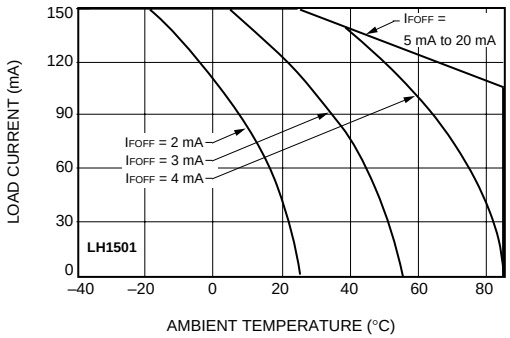
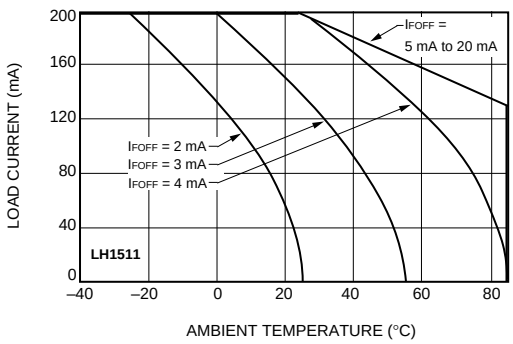
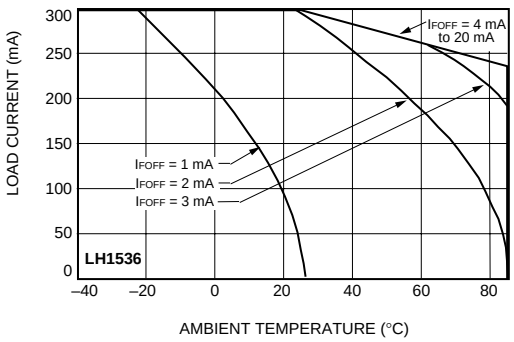
Absolute Maximum Ratings T_A=25°C
Stresses in excess of the Absolute Maximum Ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of this document. Exposure to Absolute Maximum Ratings for extended periods of time can adversely affect reliability.

Parameter	Symbol	Test Conditions	LH1501	LH1511	Units
Ambient Operating Temperature Range	T_A	—	–40 to +85	–40 to +85	°C
Storage Temperature Range	T_{stg}	—	–40 to +150	–40 to +150	°C
Pin Soldering Temperature	T_S	t=10 s max	260	260	°C
Input/Output Isolation Test Voltage	V_{ISO}	Vrms t=1 s I_{ISO}=10 µA max	5300	5300	Vrms
LED Continuous Forward Current	I_F	—	50	50	mA
LED Reverse Voltage	V_R	$I_R \leq 10$ µA	8	8	V
dc or Peak ac Load Voltage	V_L	$I_L \leq 50$ µA	350	200	V
Continuous dc Load Current Bidirectional Operation Unidirectional Operation	I_L	—	 150 250	 200 350	 mA mA
Peak Load Current	I_P	t=100 ms (single shot)	400	600	mA
Output Power Dissipation (continuous)	P_{DISS}	—	550	550	mW

Recommended Operating Conditions







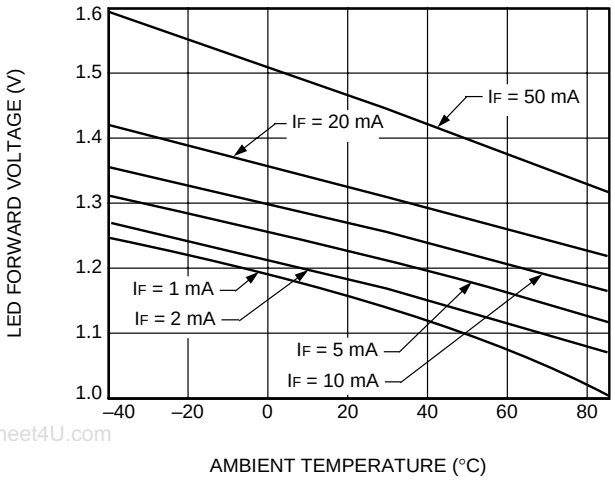
Electrical Characteristics T_A=25°C

Minimum and maximum values are testing requirements. Typical values are characteristics of the device and are the result of engineering evaluations. Typical values are for information purposes only and are not part of the testing requirements.

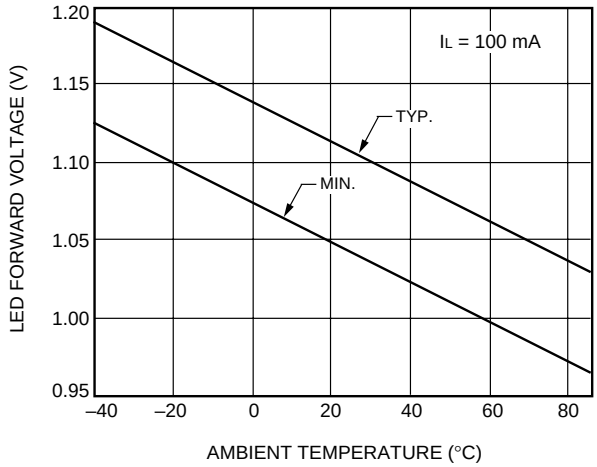
	Parameter	Symbol	Test Conditions	Values	LH1501	LH1511	Units
INPUT	LED Forward Current for Switch Turn-off	I_{Foff}	—	Min	—	—	mA
				Typ	1.0	1.0	mA
				Max	2.0	2.0	mA
			V_L	±	300	150	V
	LED Forward Current for Switch Turn-on	I_{Fon}	t=10 ms	Min	0.2	0.2	mA
				Typ	0.9	0.9	mA
				Max	—	—	mA
			I_L	±	150	200	mA
	LED Forward Voltage	V_F	I_F=10 mA	Min	1.15	1.15	V
				Typ	1.26	1.26	V
				Max	1.45	1.45	V
OUTPUT	ON-resistance ac/dc Pins 4, 6 (+) to 5 (–) dc Pins 4, 6 (+) to 5 (–)	R_{ON}	I_F=0 mA I_L=50 mA	Min	12	6	Ω
				Typ	20	10	Ω
				Max	25	15	Ω
			I_F=0 mA I_L=100 mA	Min	3.00	1.50	Ω
				Typ	5.00	2.50	Ω
				Max	6.25	3.75	Ω
	OFF-resistance	R_{OFF}	I_F=5 mA V_L=±100 V	Min	0.1	0.1	GΩ
				Typ	1.4	1.4	GΩ
				Max	—	—	GΩ
	Off-state Leakage Current	—	I_F=5 mA V_L=±100 V	Min	—	—	µA
				Typ	0.07	0.07	µA
				Max	1.0	1.0	µA
			I_F=5 mA	Min	—	—	µA
				Typ	0.08	0.07	µA
				Max	1.0	1.0	µA
			VL	±	350	200	V
	Output Capacitance	—	I_F=5 mA V_L=1 V	Min	—	—	pF
				Typ	45	35	pF
				Max	—	—	pF
			I_F=5 mA V_L=50 V	Min	—	—	pF
				Typ	10	15	pF
				Max	—	—	pF
	Switch Offset	—	I_F=0 mA	Min	—	—	µV
				Typ	0.1	0.1	µV
				Max	—	—	µV
	Input/Output Capacitance	C_{ISO}	V_{ISO}=1 V	Min	—	—	pF
				Typ	0.8	0.8	pF
				Max	—	—	pF
	Turn-off Time	t_{off}	I_F=5 mA I_L=50 mA	Min	—	—	ms
				Typ	2.0	1.0*	ms
				Max	3.0	3.0*	ms
	Turn-on Time	t_{on}	I_F=5 mA I_L=50 mA	Min	—	—	ms
				Typ	1.0	1.2*	ms
				Max	3.0	3.0*	ms

* I_F=10 mA.

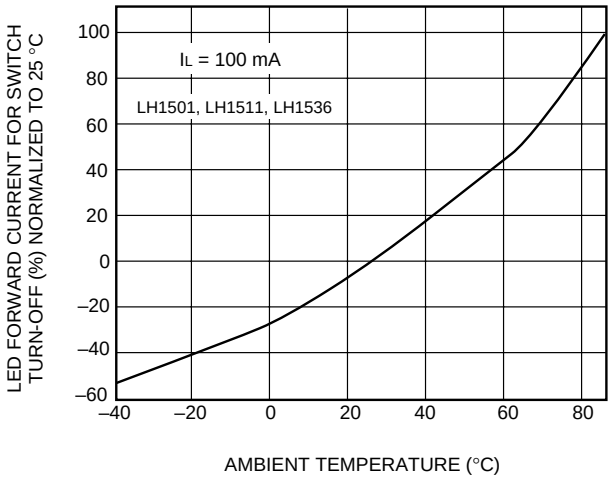
A. LED Voltage vs. Temperature



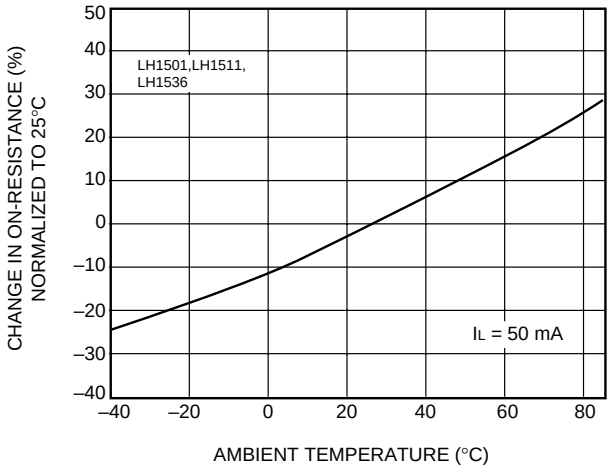
B. LED Dropout Voltage vs. Temperature



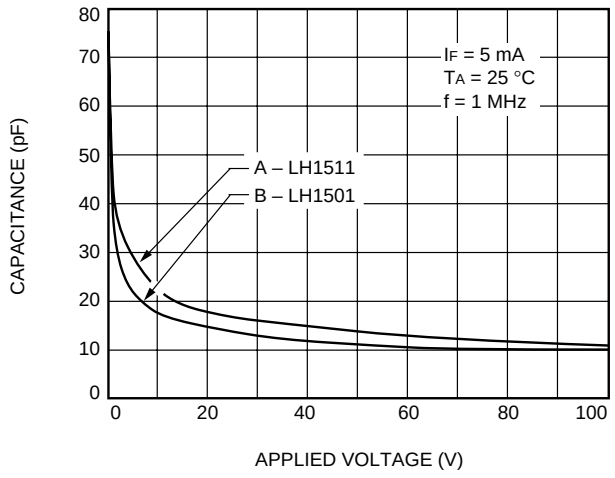
C. LED Current for Switch Turn-Off vs. Temperature



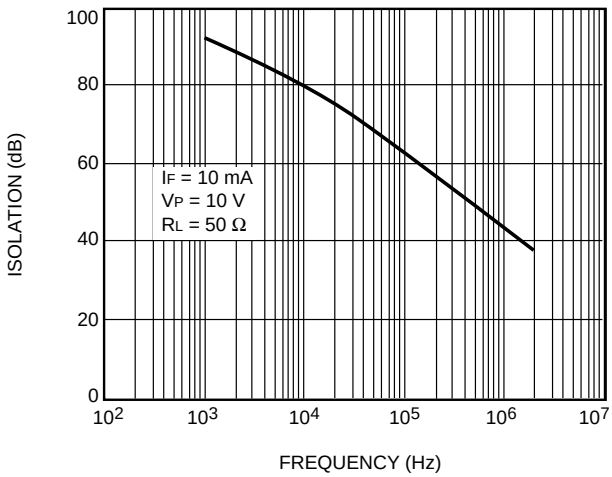
D. ON-Resistance vs. Temperature



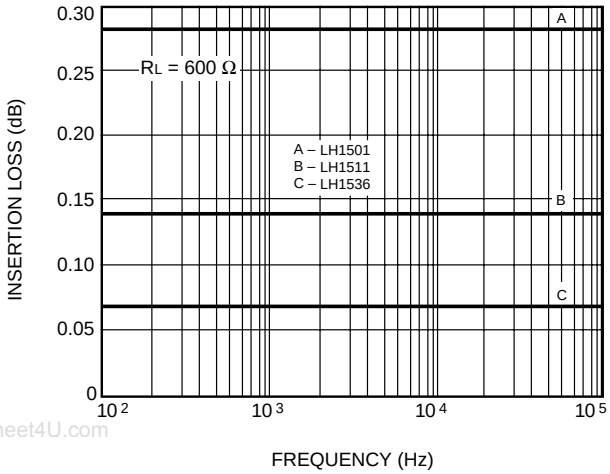
E. Switch Capacitance vs. Applied Voltage



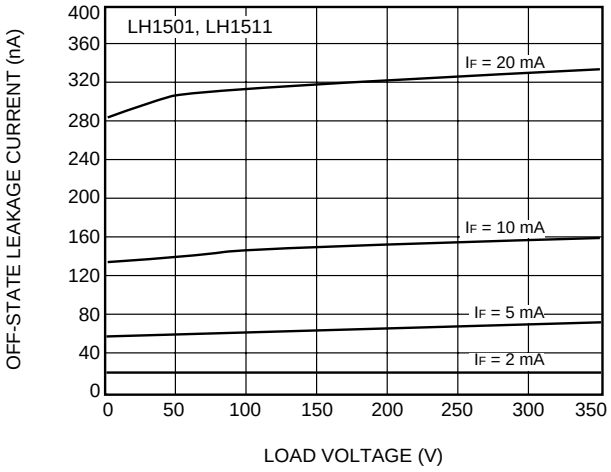
F. Output Isolation



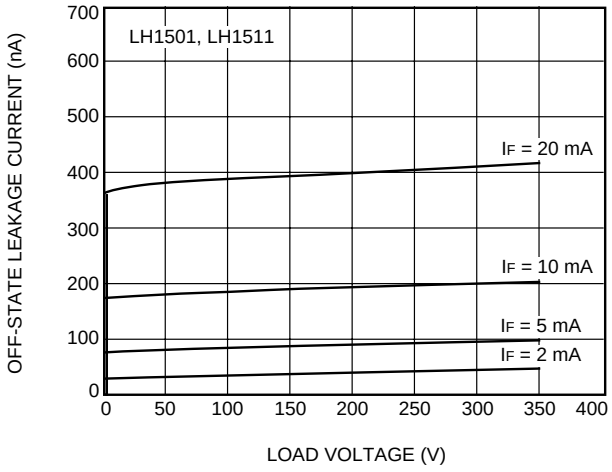
G. Insertion Loss vs. Frequency



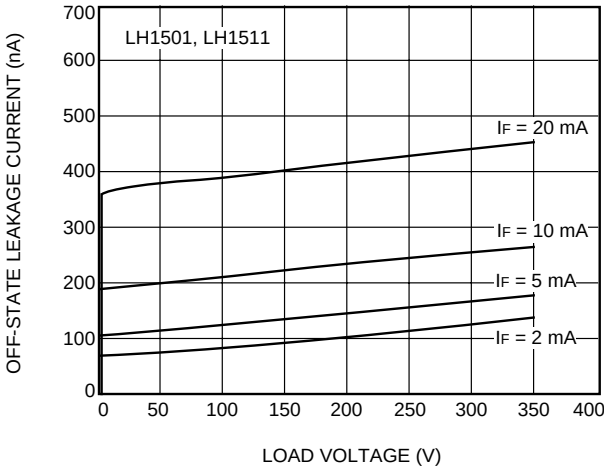
H. Leakage Current vs. Applied Voltage @ 25°C



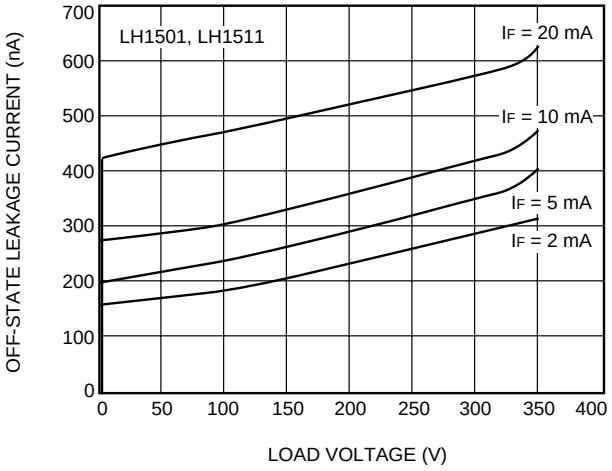
I. Leakage Current vs. Applied Voltage @ 50°C



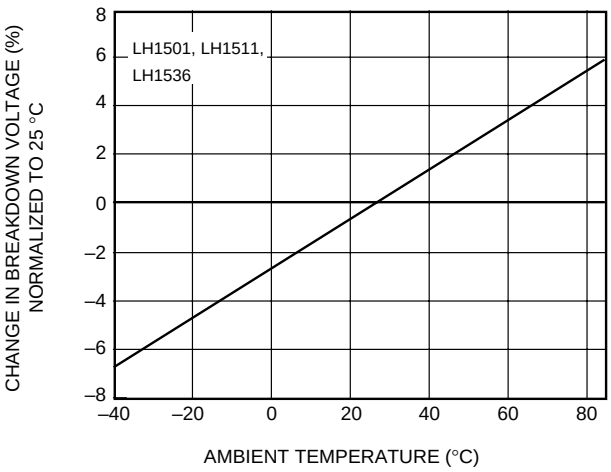
J. Leakage Current vs. Applied Voltage @ 70°C



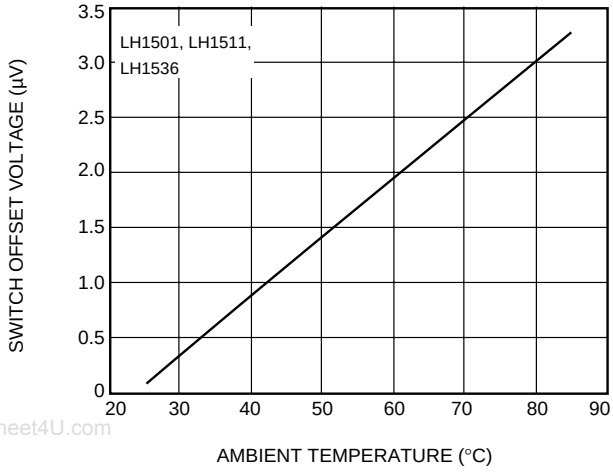
K. Leakage Current vs. Applied Voltage @ 85°C



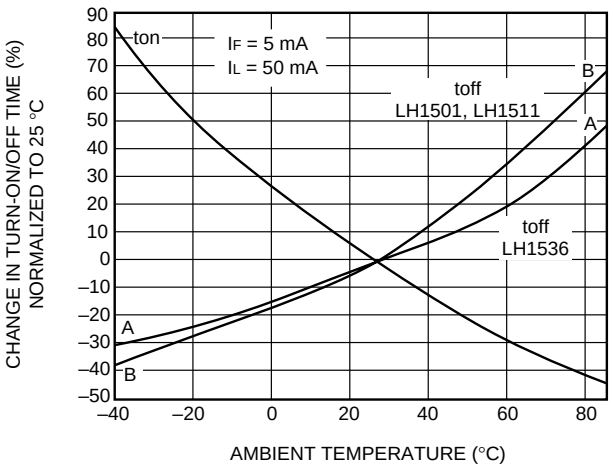
L. Switch Breakdown Voltage vs. Temperature



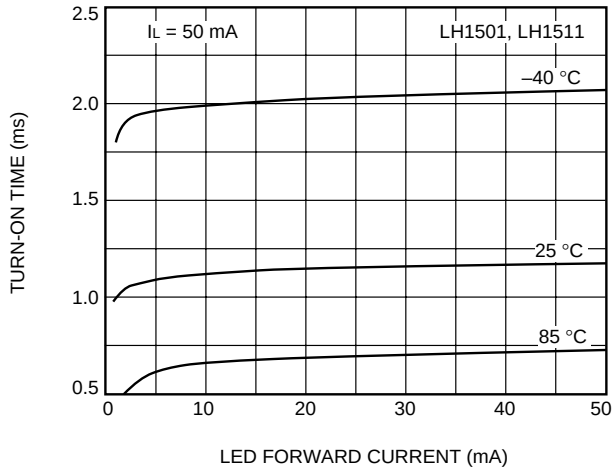
M. Switch Offset Voltage vs. Temperature



N. Turn-On/Off vs. Temperature



O. Turn-On Time vs. LED Current



P. Turn-Off Time vs. LED Current