ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
COUPLER				
Total package dissipation (LED plus detector)		P_{tot}	260	mW
Derate linearly from 25 °C			3.5	mW/°C
Storage temperature		T_{stg}	-55 to +150	°C
Operating temperature		T_{amb}	-55 to +100	°C
Lead soldering time at 260 °C			10	s

Note

- Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. 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 the time can adversely affect reliability

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
INPUT							
Forward voltage	I_F = 50 mA	H11B1	V_F	-	1.1	1.5	V
		H11B2	V_F	-	1.1	1.5	V
	I_F = 10 mA	H11B3	V_F	-	1.1	1.5	V
Reverse current	V_R = 3 V		I_R	-	-	10	µA
Junction capacitance	V_F = 0 V, f = 1 MHz		C_j	-	50	-	pF
OUTPUT							
Collector emitter breakdown voltage	I_C = 1 mA, I_F = 0 mA		BV_{CEO}	30	-	-	V
Emitter collector breakdown voltage	I_E = 100µA, I_F = 0 mA		BV_{ECO}	7	-	-	V
Collector base breakdown voltage	I_C = 100 µA, I_F = 0 mA		BV_{CBO}	30	-	-	V
Collector emitter leakage current	V_{CE} = 10 V, I_F = 0 mA		I_{CEO}	-	-	100	nA
COUPLER							
Saturation voltage collector-emitter	I_F = 1 mA, I_C = 1 mA		V_{CEsat}	-	-	1	V
Capacitance (input to output)			C_{IO}	-	0.5	-	pF

Note

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

CURRENT TRANSFER RATIO (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
DC current transfer ratio	V_{CE} = 5 V, I_F = 1 mA	H11B1	CTR_{DC}	500			%
		H11B2	CTR_{DC}	200			%
		H11B3	CTR_{DC}	100			%

SWITCHING CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Switching times	I_F = 5 mA, V_{CE} = 10 V, R_L = 100 Ω	t_{on}		5		µs
		t_{off}		30		µs

SAFETY AND INSULATION RATINGS				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Climatic classification	According to IEC 68 part 1		55 / 100 / 21	
Comparative tracking index		CTI	175	
Maximum rated withstanding isolation voltage	t = 1 min	V_{ISO}	4420	V_{RMS}
Maximum transient isolation voltage		V_{IOTM}	10 000	V_{peak}
Maximum repetitive peak isolation voltage		V_{IORM}	890	V_{peak}
Isolation resistance	V_{IO} = 500 V, T_{amb} = 25 °C	R_{IO}	$\geq 10^{12}$	Ω
	V_{IO} = 500 V, T_{amb} = 100 °C	R_{IO}	$\geq 10^{11}$	Ω
Output safety power		P_{SO}	400	mW
Input safety current		I_{SI}	275	mA
Safety temperature		T_S	175	°C
Creepage distance			≥ 7	mm
Clearance distance			≥ 7	mm
Insulation thickness		DTI	≥ 0.4	mm

Note

- As per IEC 60747-5-5, § 7.4.3.8.2, this optocoupler is suitable for “safe electrical insulation” only within the safety ratings. Compliance with the safety ratings shall be ensured by means of protective circuits

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

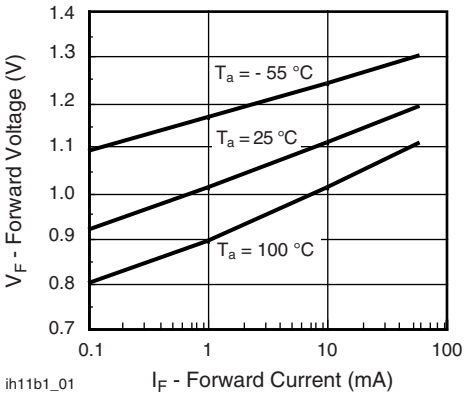


Fig. 1 - Forward Voltage vs. Forward Current

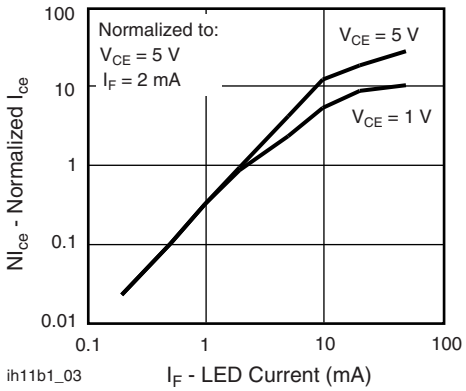


Fig. 3 - Normalized Non-Saturated and Saturated I_{CE} vs. LED Current

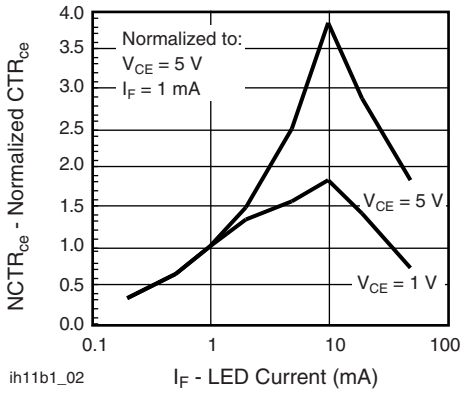


Fig. 2 - Normalized Non-Saturated and Saturated CTR_{CE} vs. LED Current

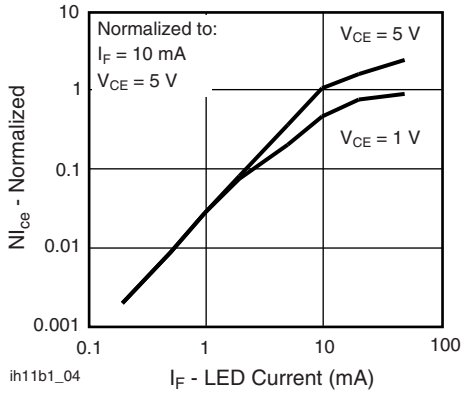


Fig. 4 - Normalized Non-Saturated and Saturated Collector Emitter Current vs. LED Current

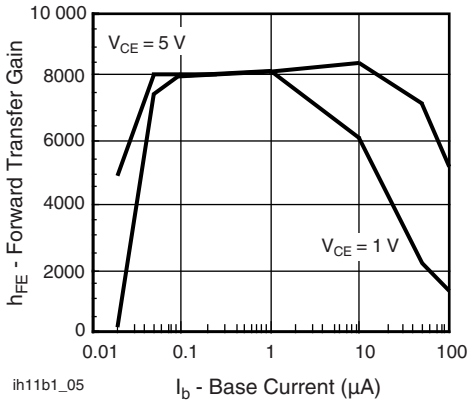


Fig. 5 - Non-Saturated and Saturated h_{FE} vs. Base Current

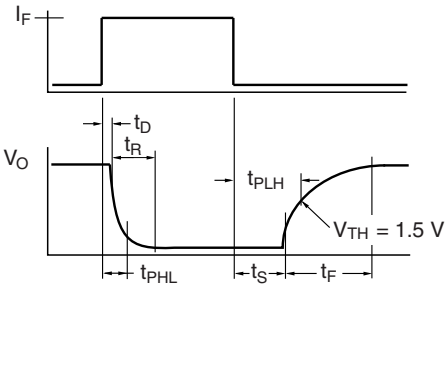


Fig. 8 - Switching Waveform

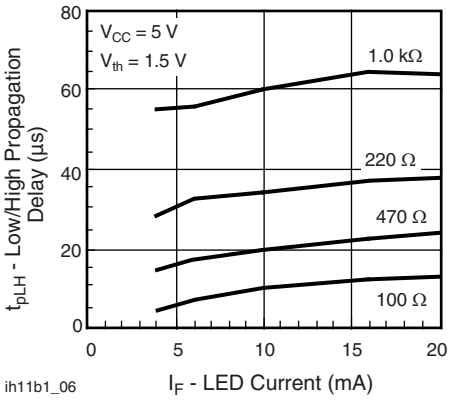


Fig. 6 - Low to High Propagation Delay vs. Collector Load Resistance and LED Current

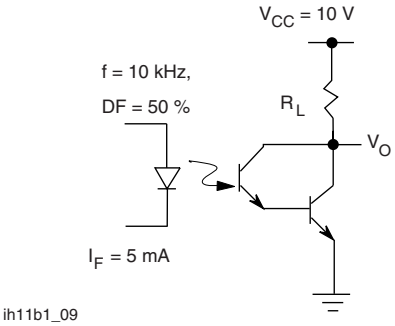


Fig. 9 - Switching Schematic

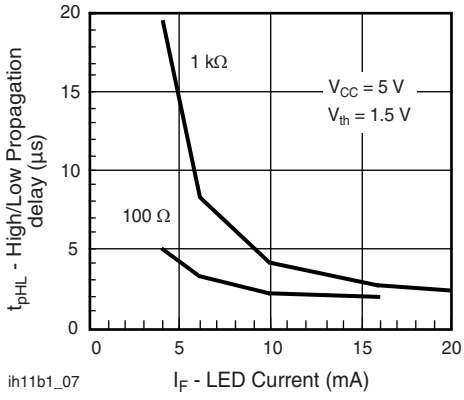
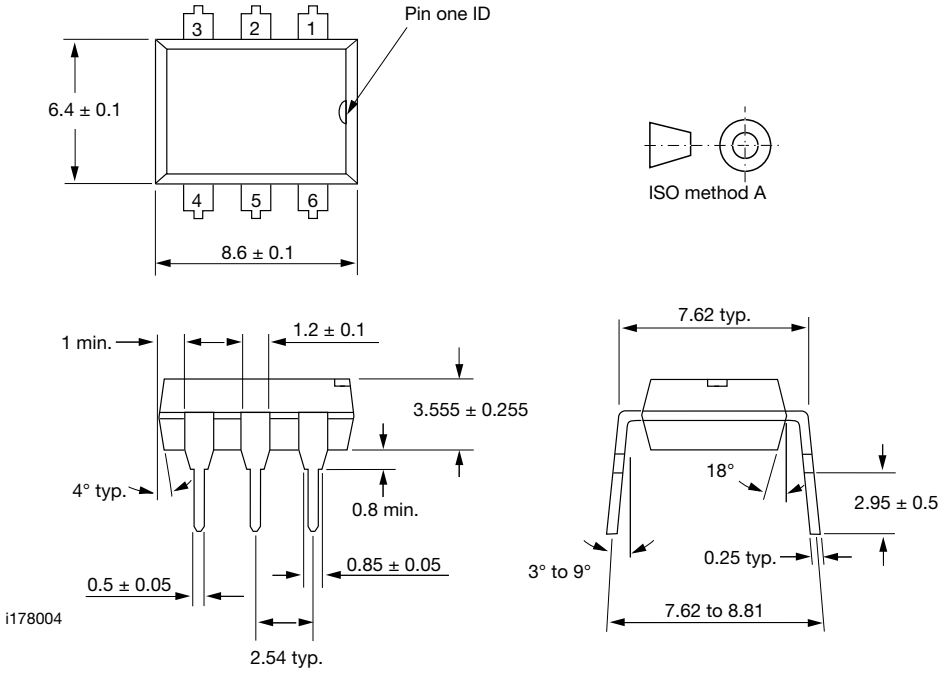
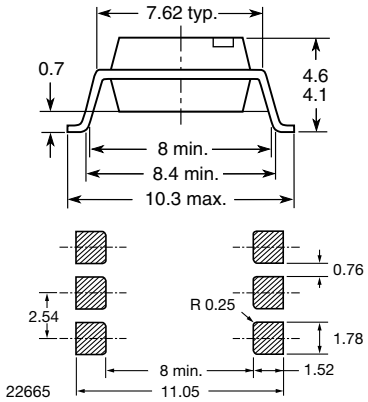


Fig. 7 - High to Low Propagation Delay vs. Collector Load Resistance and LED Current

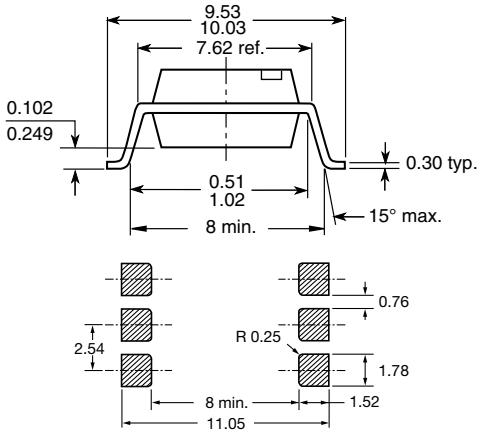
PACKAGE DIMENSIONS in millimeters



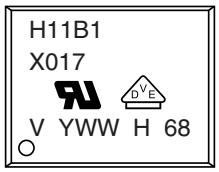
Option 7



Option 9



PACKAGE MARKING (example)



Notes

- Only options 1, 7, and 9 are reflected in the package marking
- The VDE logo is only marked on option 1 parts
- Tape and reel suffix (T) is not part of the package marking

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