



DVI-7360-IR-TX

IR Remote Transmitter + Cable, 1m

DVI-7360-IR-RX

IR Remote Receiver + Cable, 1m

TX FEATURES

- High reliability
- High radiant intensity
- Low forward voltage
- 38 kHz Carrier Frequency
- Precise spectral matching to IR Receiver
- Pb free and fully RoHS compliant

RX FEATURES

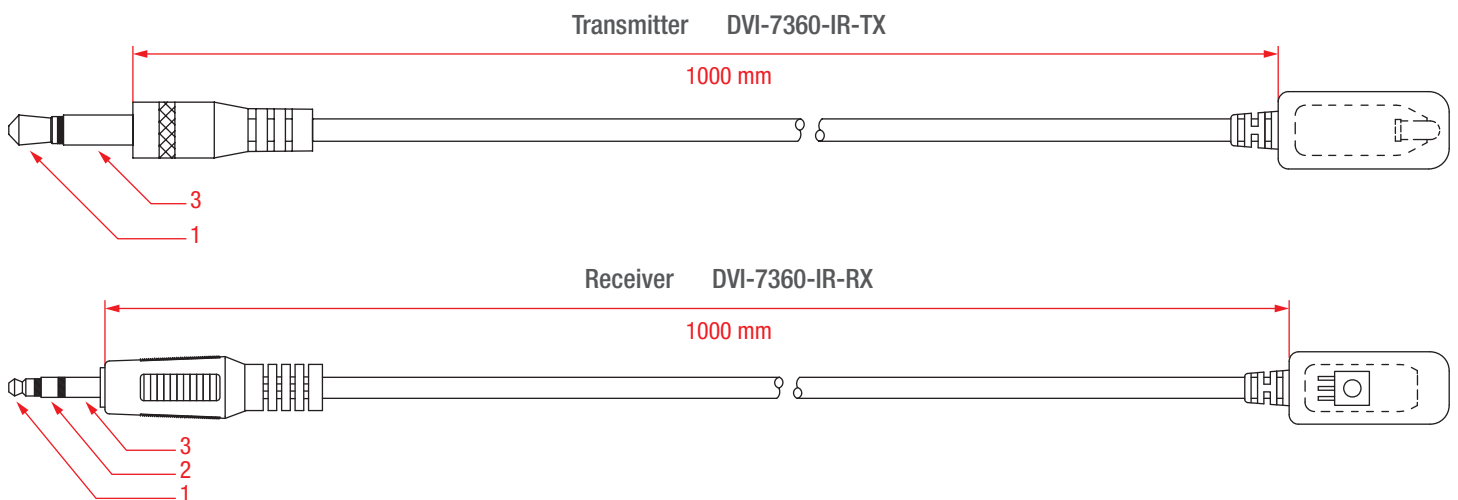
- Photo detector and preamplifier in one package
- Internal filter for PCM 38 kHz carrier frequency
- Internal shielding provides exceptional immunity from external RFI / EMI sources
- TTL and CMOS compatibility
- Low power consumption
- High immunity against ambient light
- Suitable burst length ≥ 10 cycles/burst
- Pb free and fully RoHS compliant

Transmitter — The IR transmitter unit utilizes a high intensity infrared emitting diode molded in a plastic package. The device is spectrally matched with DVIgear’s IR receiver. Both devices are designed to be used with IR systems that utilize a 38 kHz RF carrier frequency.

Receiver — The IR Receiver utilizes a PIN photo diode and preamplifier that are assembled on a lead frame fit into an epoxy package that is designed as an IR filter. The demodulated output signal can be directly decoded by a microprocessor. This IR receiver unit supports all major remote control transmission codes.

Applications — These IR units are compatible with most DVIgear products and can be used in a wide range of professional IR remote applications.

Connector Parts		Tx Circuit Item	Rx Circuit Item
1	Tip	IR Diode +	Output
2	Ring	N/A	Ground
3	Sleeve	IR Diode -	Vcc (+5V)



RECEIVER CODE INFORMATION

Data Format	Supported?	Data Format	Supported?
NEC	Yes	Sony 12 Bit	Yes
RC5	Yes	Sony 15 Bit	No
RC6	Yes	Sony 20 Bit	No
RCA	No	Panasonic	Yes
Toshiba	Yes	Mitsubishi	Yes
Sharp	Yes	Zenith	Yes
JVC	Yes	High data rate (4000 bit/s)	No

IR TRANSMITTER - ELECTRICAL CHARACTERISTICS ⁽¹⁾

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	E_e	$I_F = 20\text{mA}$	5.6	7.8	–	mW/sr
		$I_F = 100\text{mA}$ Pulse Width $\leq 100 \mu\text{s}$ and Duty $\leq 1\%$	–	35	–	
		$I_F = 1\text{A}$ Pulse Width $\leq 100 \mu\text{s}$ and Duty $\leq 1\%$	–	350	–	
Peak Wavelength	λ_p	$I_F = 20\text{mA}$	–	940	–	nm
Spectral Bandwidth	$\Delta \lambda$	$I_F = 20\text{mA}$	–	45	–	nm
Forward Voltage	V_F	$I_F = 20\text{mA}$	–	1.2	1.5	V
		$I_F = 100\text{mA}$ Pulse Width $\leq 100 \mu\text{s}$ and Duty $\leq 1\%$	–	1.4	1.8	
		$I_F = 1\text{A}$ Pulse Width $\leq 100 \mu\text{s}$ and Duty $\leq 1\%$	–	2.6	4.0	
Reverse Current	I_R	$V_R = 5\text{V}$	–	–	10	μA
View Angle	$2\theta_{1/2}$	$I_F = 20\text{mA}$	–	45	–	deg

Note 1: $T_a = 77^\circ\text{F} (25^\circ\text{C})$

IR RECEIVER - ELECTRICAL CHARACTERISTICS ⁽¹⁾

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Current Consumption	I_{CC}	–	1.0	1.2	mA	No signal input
Carrier Frequency	F_C	–	38	–	kHz	
Peak Wavelength	λ_p	–	940	–	nm	
Reception Range	L_0	14	–	–	m	At the ray axis ⁽²⁾
	L_{45}	6	–	–		
Half Angle (Horizontal)	ϕ_h	–	45	–	deg	
Half Angle (Vertical)	ϕ_v	–	45	–	deg	
High Level Pulse Width	T_H	400	–	800	μs	At the ray axis ⁽³⁾
Low Level Pulse Width	T_L	400	–	800	μs	
High Level Output Voltage	V_{OH}	2.7	–	–	V	
Low Level Output Voltage	V_{OL}	–	–	0.25	V	

Note 1: $T_a = 77^\circ\text{F} (25^\circ\text{C})$ and $V_{CC} = 3.0\text{V}$. Recommended operating condition – supply voltage rating: $V_{CC} 2.7\text{V}$ to 5.5V .

Note 2: The ray receiving surface at a vertex and relation to the ray axis in the range of $\phi = 0^\circ$ and $\phi = 45^\circ$. See measuring system drawing on page 3.

Note 3: A range from 30cm to the arrival distance. Average value of 50 pulses. See transmitter wave form and measuring system drawings on page 3.

IR TRANSMITTER - ABSOLUTE MAXIMUM RATINGS ⁽¹⁾

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	100	mA
Peak Forward Current ⁽²⁾	I_{FP}	1.0	A
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 to +185 / -40 to +85	°F / °C
Storage Temperature	T_{stg}	-40 to +185 / -40 to +85	°F / °C
Power Dissipation at (or below) 77°F / 25°C Free Air Temperature	P_d	150	mW

Note 1: $T_a = 77^\circ\text{F} (25^\circ\text{C})$

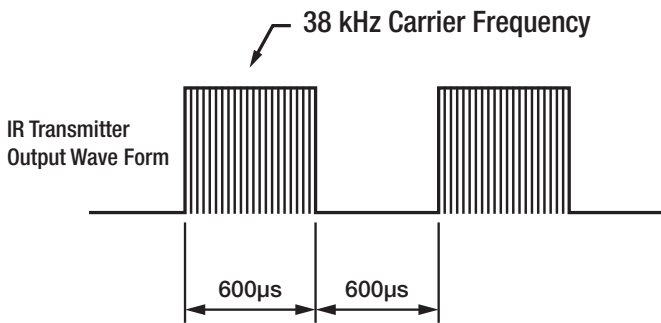
Note 2: I_{FP} Conditions – Pulse Width $\leq 100 \mu\text{s}$ and Duty $\leq 1\%$.

IR RECEIVER - ABSOLUTE MAXIMUM RATINGS ⁽¹⁾

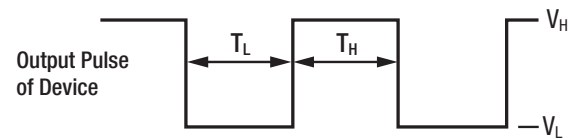
Parameter	Symbol	Rating	Units
Supply Voltage	V_{CC}	0 ~ 6	V
Operating Temperature	T_{opr}	-4 ~ +176 / -20 ~ +80	°F / °C
Storage Temperature	T_{stg}	-40 ~ +185 / -40 ~ +85	°F / °C

Note 1: $T_a = 77^\circ\text{F} (25^\circ\text{C})$

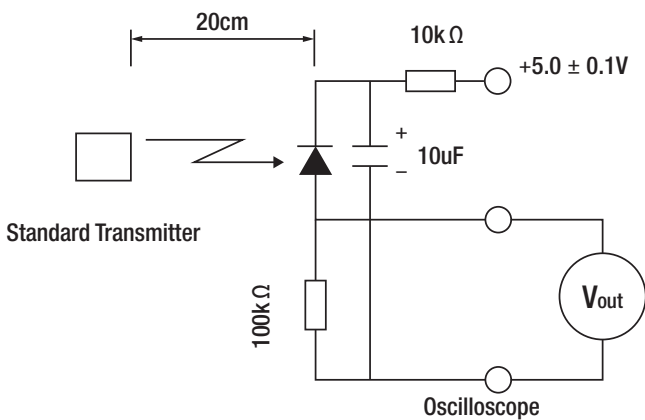
TRANSMITTER WAVE FORM



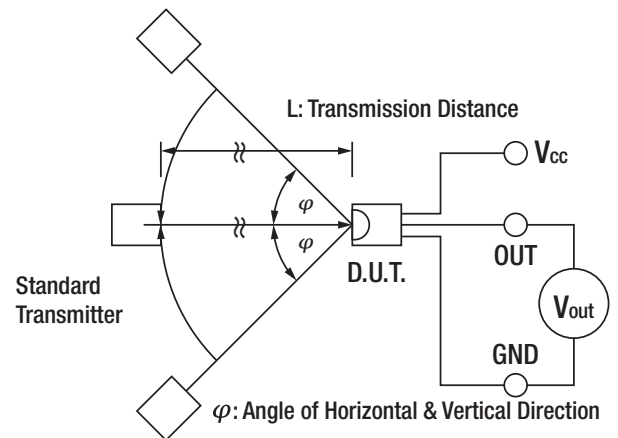
Duty Cycle = 50%



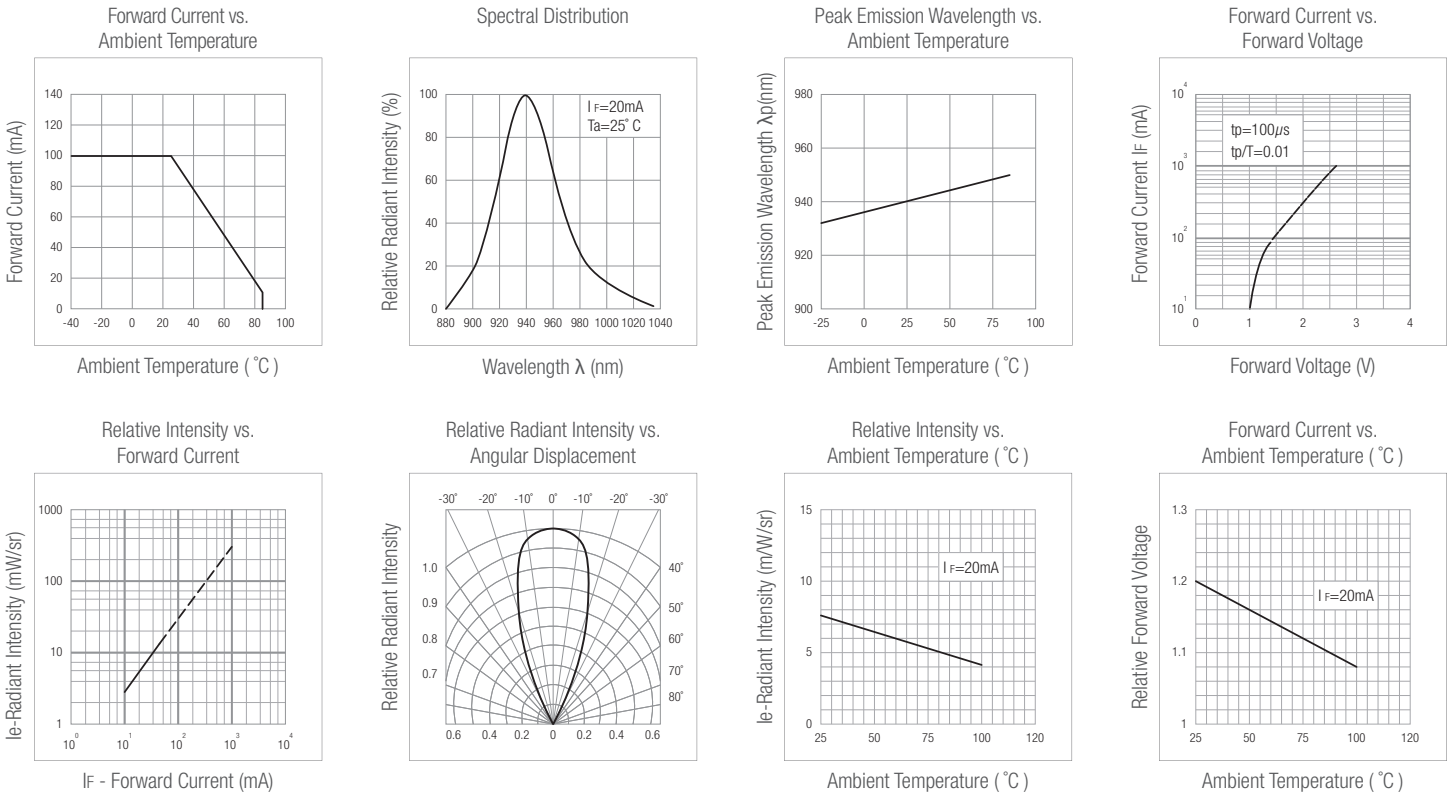
MEASURING METHOD



MEASURING SYSTEM



TRANSMITTER DIAGRAMS



RECEIVER DIAGRAMS

