



The products are gate driver opto-couplers in a plastic DIP8 package with different lead forming options. The device consists of an infrared LED optically coupled to an integrated high-gain, high-speed photodetector IC chip. It provides guaranteed performance and specifications at temperature up to 110°C. It is physically smaller and compliant with international safety standards for reinforced insulation. It thus provides a smaller footprint solution for applications that require safety standard certification. An internal noise shield provides a guaranteed common-mode transient immunity of $\pm 35 \text{ kV}/\mu\text{s}$. It is ideal for small class IGBT and power MOSFET gate drive. The products are widely used in industrial inverters, IGBT gate drivers, MOSFET gate drivers, induction cooktop and home appliances.

3A maximum peak output current

High isolation 5000 VRMS

Buffer logic type

Operating temperature range -40°C to 110°C

REACH & RoHS compliance

HBM: H3A; MM: M4; CDM: C3

CQC approved

VDE approved

UL approved

= D = A /

LED	V _{CC} -V _{EE} (Positive Going)	V _{CC} -V _{EE} (Negative Going)	Output
OFF	0-30V	0-30V	Low
ON	0-6.9V	0-5.9V	Low
ON	6.9V-8.7V	5.9V-7.5V	TRANSITION
ON	8.7V-30V	7.5V-30V	HIGHT



(Temperature=25°C)

LED	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1 ^①	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	100	mW
Detector	Output Voltage	V_O	35	V
	Supply Voltage	V_{CC}	35	V
	Power Dissipation	P_C	400	mW
Isolation Voltage		V_{iso}	5000 ^②	Vrms
Operating Temperature		T_{opr}	-40~110	°C
Junction Temperature		T_j	125	°C
Storage Temperature		T_{stg}	-55~125	°C
Total Power Dissipation		P_{tot}	500	mW
Soldering Temperature		T_{sol}	260	°C

: 100μs pulse, 100Hz frequency

: AC for 1minute, R.H.=40~60%

(Temperature=25°C)

Input	Forward Voltage	V_F	$I_F=10mA$	-	1.35	1.6	V
	Reverse Current	I_R	$V_R=6V$	-	-	1	μA
	Terminal Capacitance	C_t	$V=0, f=1MHz$	-	60	-	pF
Output	Peak High-level Output Current	I_{OPH}	$V_O=V_{CC}-4V$, Pulse width≤50μs	-1	-	-	A
			$V_O=V_{CC}-15V$, Pulse width≤10μs	-3	-	-	A
	Peak Low-level Output Current	I_{OPL}	$V_O=V_{EE}+2.5V$, Pulse width≤50μs	1	-	-	A
			$V_O=V_{EE}+15V$, Pulse width≤10μs	3	-	-	A
	High Level Supply Current	I_{CCH}	$I_F=10mA$ $V_{CC}=30V$, $V_O=Open$	-	1.2	2	mA
	Low Level Supply Current	I_{CCL}	$I_F=0mA$, $V_{CC}=30V$, $V_O=Open$	-	1.1	2	mA

OVLO Threshold



①②

Input On-state Current	$I_{F(ON)}^{③}$	7	-	10	mA
Input Off-state Voltage	$V_{F(OFF)}$	0	-	0.8	V
Supply Voltage	$V_{CC}^{④}$	10	-	30	V
Operating Frequency	f	-	-	50	kHz

: The recommended operating conditions are given as a design guide necessary to obtain the intended performance of the device. Each parameter is an independent value. When creating a system design using this device, the electrical characteristics specified in this datasheet should also be considered.

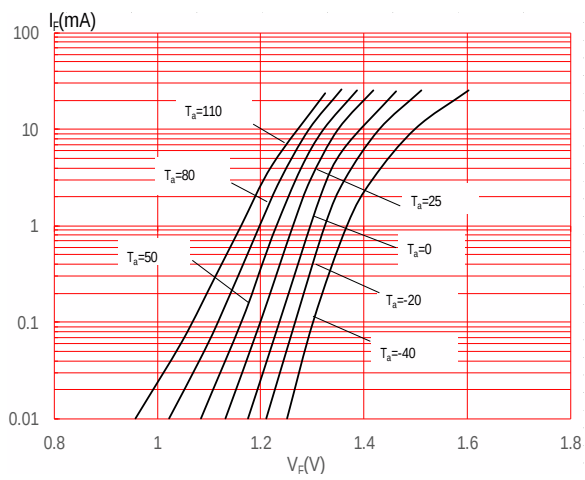
: A ceramic capacitor(0.1 μ F) should be connected between pin 6 (V_{CC}) and pin 4 (GND) to stabilize the operation of a high-gain linear amplifier. Otherwise, this photocoupler may not switch properly. The bypass capacitor should be placed within 1 cm of each pin.

: The rise and fall times of the input on-current should be less than 0.5 μ s.

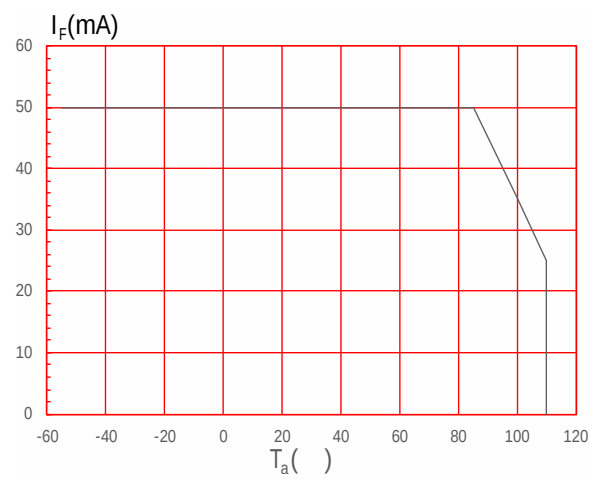
: If the rising slope of the supply voltage (V_{CC}) for the detector is steep, stable operation of the internal circuits cannot be guaranteed. Be sure to set 3 V/ μ s or less for a rising slope of the V_{CC} .



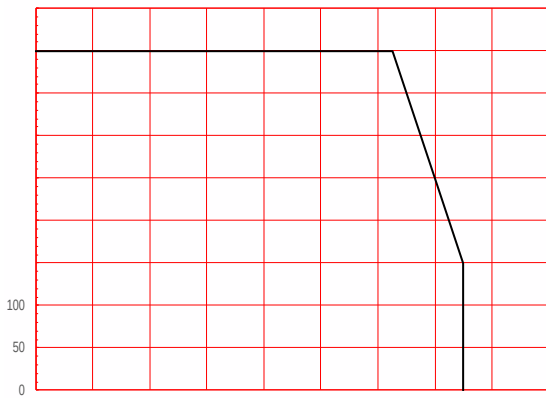
Forward Current vs. Forward Voltage



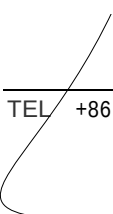
Max. Allowable LED Forward Current vs. Ambient Temperature



Collector Power Dissipation vs. Ambient Temperature

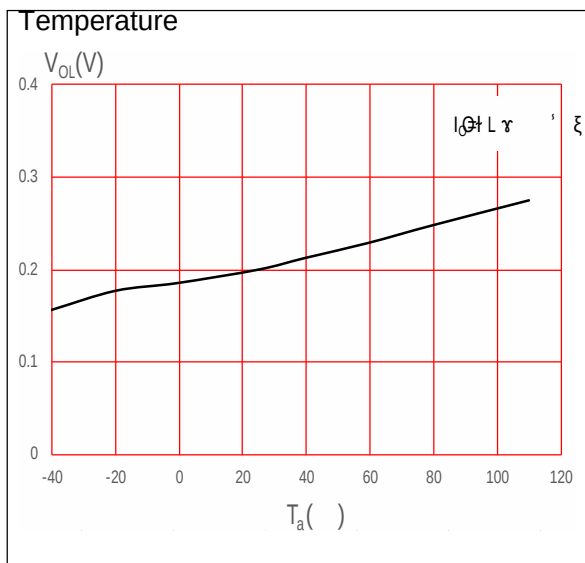


Threshold Input Current vs. Ambient Temperature





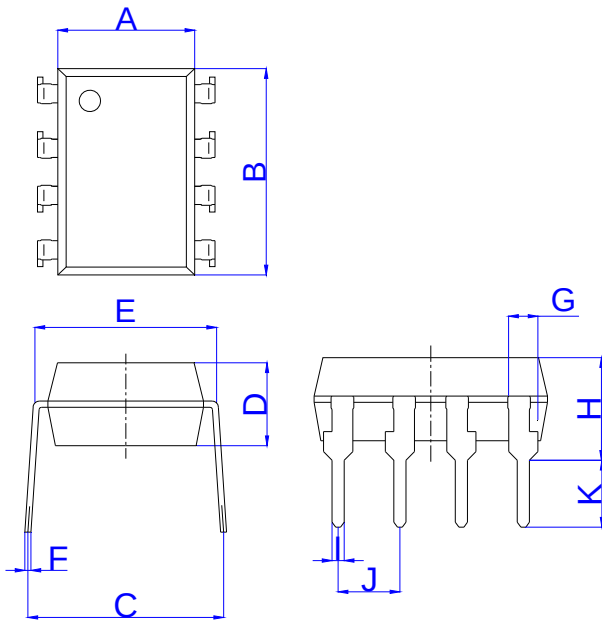
Low-level Output Voltage vs. Ambient



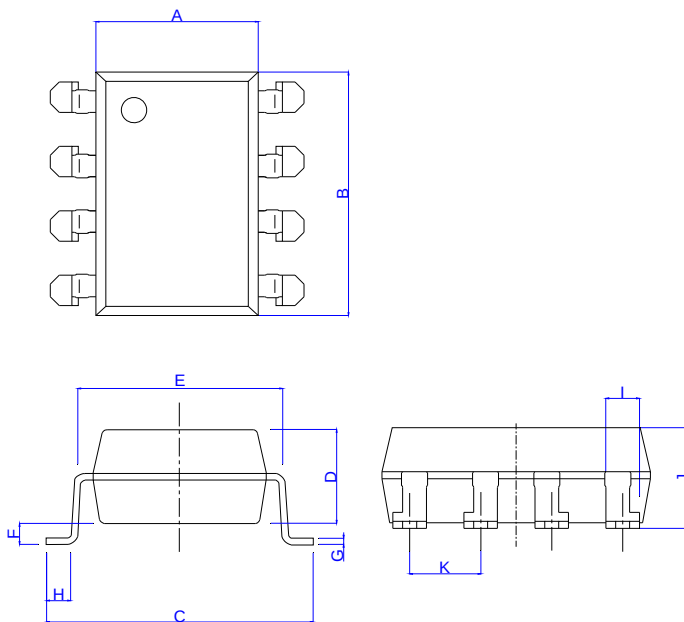
High-level Output Voltage vs. Ambient
Temperature



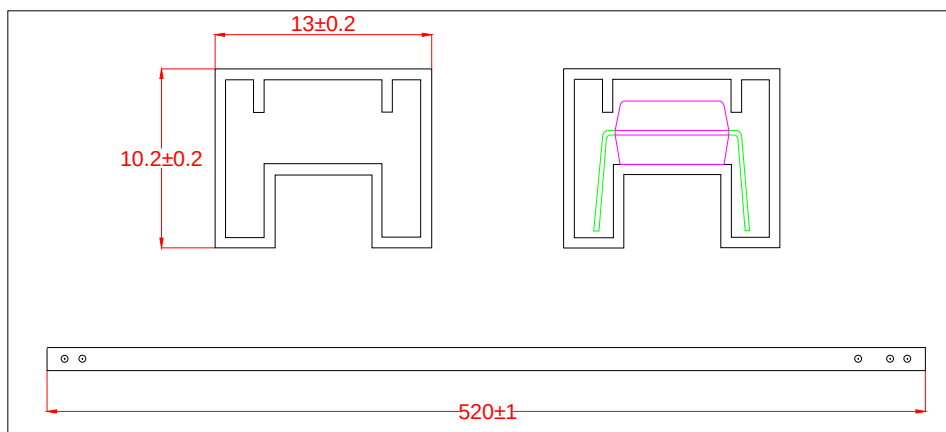
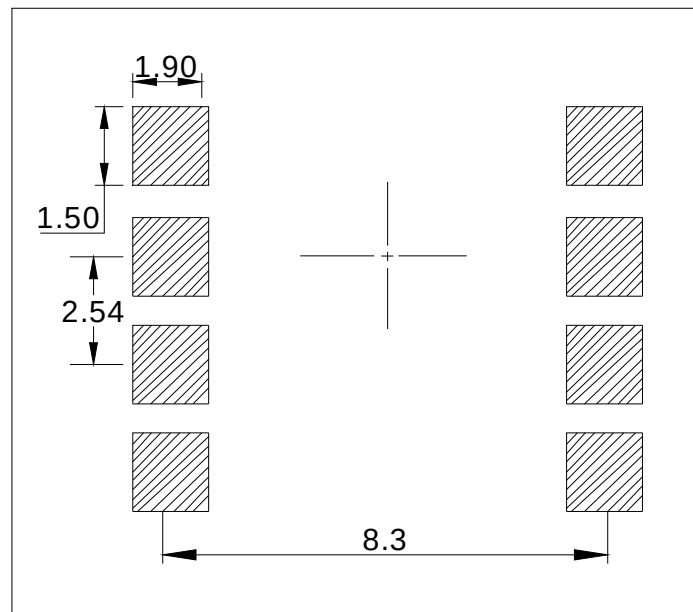
Propagation Delay Time vs. Supply
Voltage



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	9.40		9.80	0.370		0.386
C	7.15		8.95	0.281		0.352
D	3.20		3.60	0.126		0.142
E	7.32		7.92	0.288		0.312
F	0.15		0.35	0.006		0.014
G	0.90		1.50	0.035		0.059
H	3.90		4.50	0.154		0.177
I	0.40		0.60	0.016		0.024
J	2.29		2.79	0.090		0.110
K	2.24		3.24	0.088		0.128

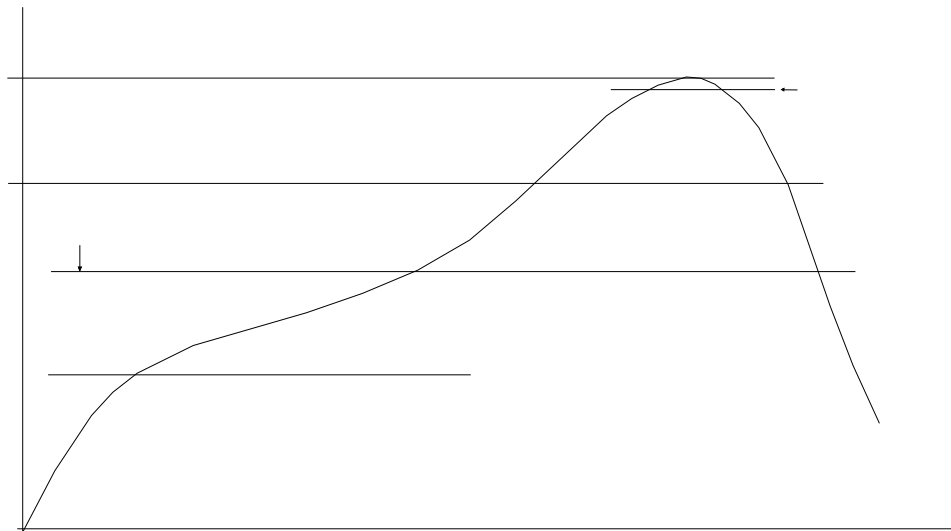
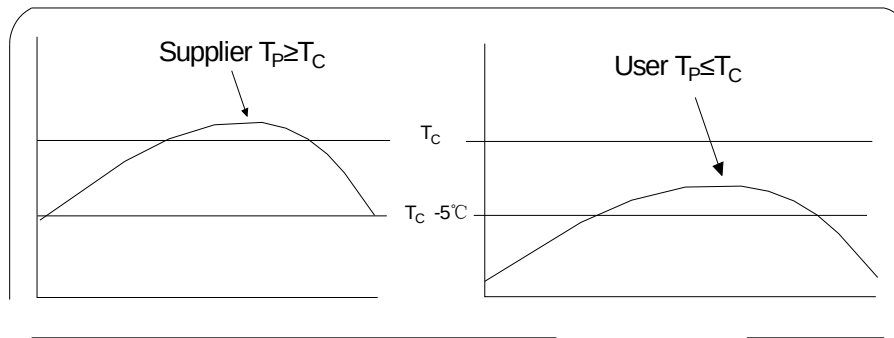


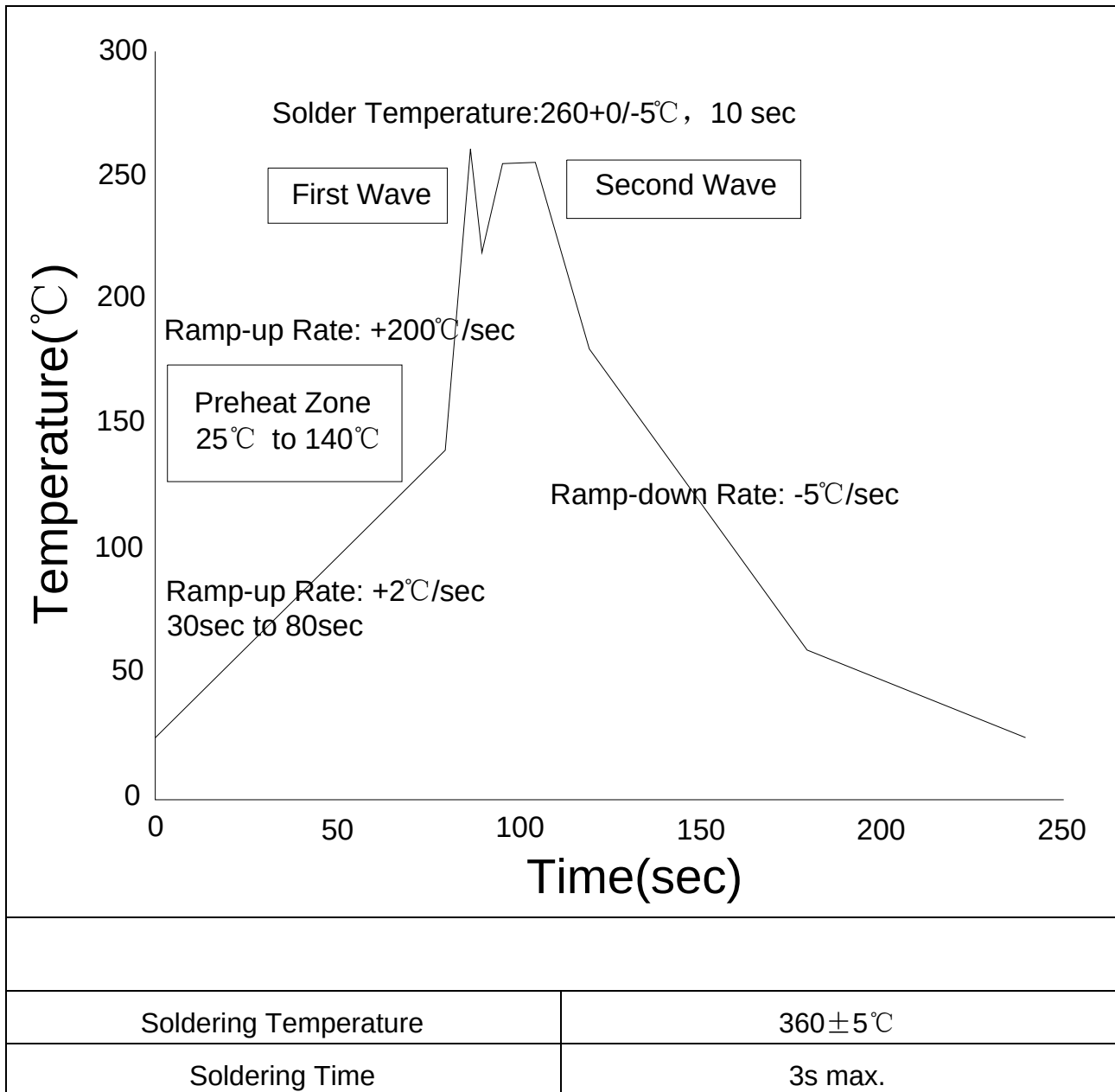
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	9.40		9.80	0.370		0.386
C	9.50		10.50	0.374		0.413
D	3.20		3.60	0.126		0.142
E	7.32		7.92	0.288		0.312
F	0.05		0.35	0.002		0.014
G	0.16		0.36	0.006		0.014
H	0.60		1.40	0.024		0.055
I	0.90		1.50	0.035		0.059
J	3.30		3.90	0.130		0.154
K	2.29		2.79	0.090		0.110





Ref. '	Dimensions	
	Millimeters	Inches







Note:

1. Reflow soldering is recommended at the temperatures and times shown, no more than three times.
2. Avoid direct contact between the epoxy body and any tools or surfaces exceeding its maximum storage temperature.
3. Application of pressure on the epoxy body is prohibited at any temperature. Inspect 3 M J ind y