


Small Outline Optoisolators

Transistor Output

These devices consist of a gallium arsenide infrared emitting diode optically coupled to a monolithic silicon phototransistor detector, in a surface mountable, small outline, plastic package. They are ideally suited for high density applications, and eliminate the need for through-the-board mounting.

- Convenient Plastic SOIC-8 Surface Mountable Package Style
- Standard SOIC-8 Footprint, with 0.050" Lead Spacing
- Compatible with Dual Wave, Vapor Phase and IR Reflow Soldering
- High Input-Output Isolation of 3000 Vac (rms) Guaranteed
- UL Recognized  File #E90700, Volume 2

Ordering Information:

- To obtain MOC211, 212 and 213 in Tape and Reel, add R2 suffix to device numbers:
R2 = 2500 units on 13" reel
- To obtain MOC211, 212 and 213 in quantities of 50 (shipped in sleeves) — No Suffix

Marking Information:

- MOC211 = 211
- MOC212 = 212
- MOC213 = 213

Applications:

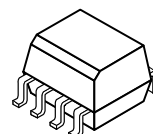
- General Purpose Switching Circuits
- Interfacing and coupling systems of different potentials and impedances
- Regulation Feedback Circuits
- Monitor and Detection Circuits

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

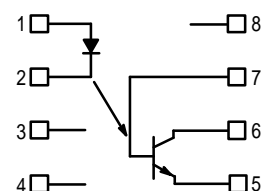
Rating	Symbol	Value	Unit
INPUT LED			
Forward Current — Continuous	I _F	60	mA
Forward Current — Peak (PW = 100 μs, 120 pps)	I _{F(pk)}	1.0	A
Reverse Voltage	V _R	6.0	V
LED Power Dissipation @ T _A = 25°C Derate above 25°C	P _D	90 0.8	mW mW/°C
OUTPUT TRANSISTOR			
Collector-Emitter Voltage	V _{CEO}	30	V
Collector-Base Voltage	V _{CBO}	70	V
Emitter-Collector Voltage	V _{ECO}	7.0	V
Collector Current — Continuous	I _C	150	mA
Detector Power Dissipation @ T _A = 25°C Derate above 25°C	P _D	150 1.76	mW mW/°C

MOC211
MOC212
MOC213

**SMALL OUTLINE
OPTOISOLATORS
TRANSISTOR OUTPUT**



SCHEMATIC



1. LED ANODE
2. LED CATHODE
3. NO CONNECTION
4. NO CONNECTION
5. EMITTER
6. COLLECTOR
7. BASE
8. NO CONNECTION

MAXIMUM RATINGS — continued ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
TOTAL DEVICE			
Input–Output Isolation Voltage ^(1,2) (60 Hz, 1.0 sec. duration)	V_{ISO}	3000	Vac(rms)
Total Device Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	250 2.94	mW mW/ $^\circ\text{C}$
Ambient Operating Temperature Range ⁽³⁾	T_A	–45 to +100	$^\circ\text{C}$
Storage Temperature Range ⁽³⁾	T_{stg}	–45 to +125	$^\circ\text{C}$
Lead Soldering Temperature (1/16" from case, 10 sec. duration)	—	260	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

TYPICAL CHARACTERISTICS

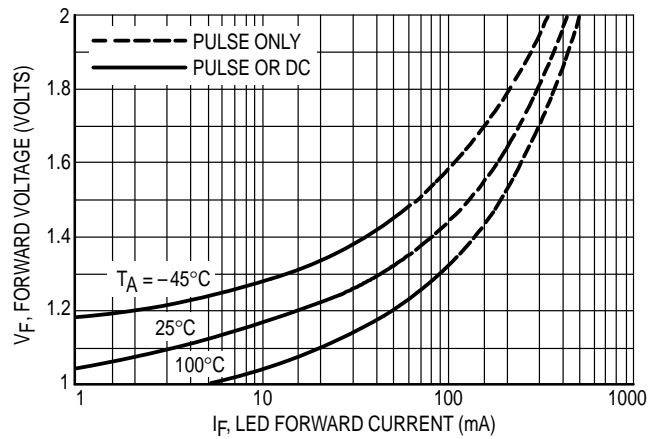


Figure 1. LED Forward Voltage versus Forward Current

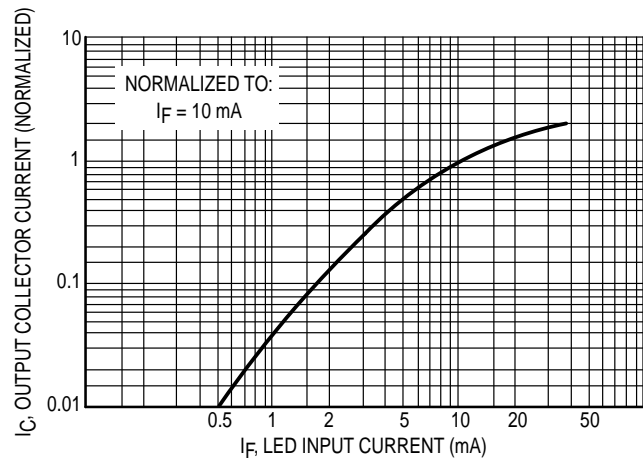
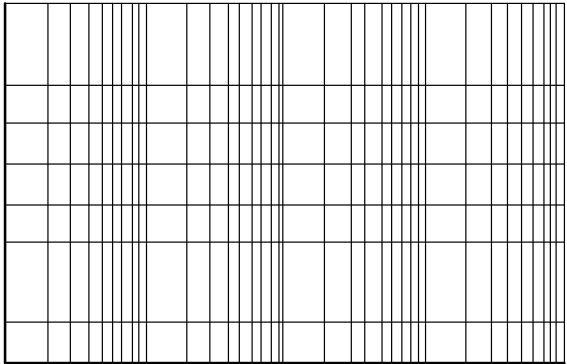
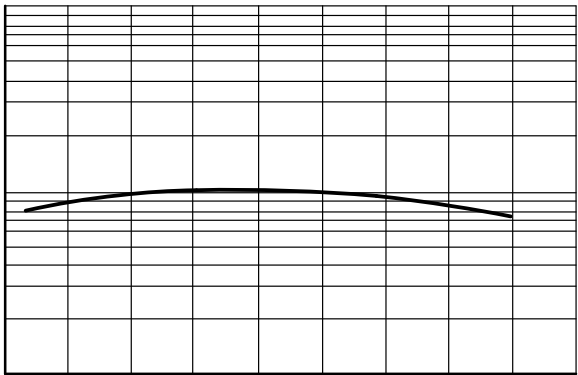
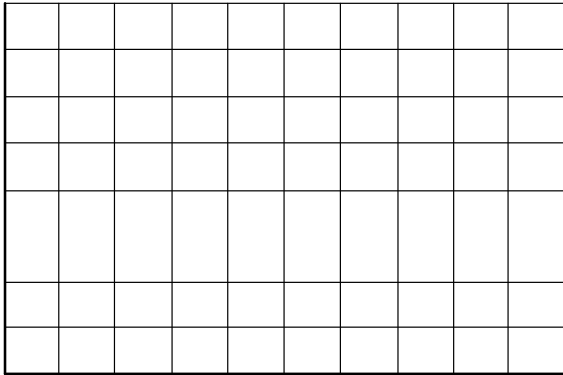
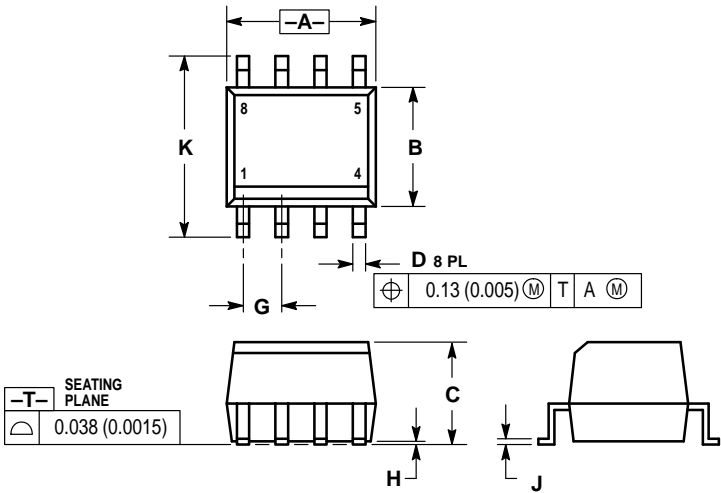


Figure 2. Output Current versus Input Current



PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.182	0.202	4.63	5.13
B	0.144	0.164	3.66	4.16
C	0.123	0.143	3.13	3.63
D	0.011	0.021	0.28	0.53
G	0.050 BSC		1.27 BSC	
H	0.003	0.008	0.08	0.20
J	0.006	0.010	0.16	0.25
K	0.224	0.244	5.69	6.19

STYLE 1:
PIN 1. ANODE
2. CATHODE
3. NC
4. NC
5. EMITTER
6. COLLECTOR
7. BASE
8. NC

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.