



# LITE-ON Technology Corp. Optoelectronics >>

Your Best Partner in Opto-Electronic Components

## Empowering a Greener Future

### EV

The EV technology market is flourishing. As of 2035 new legal regulations will be introduced for all automotive vehicles on the market to be emission-free, as part of a new series of climate change regulations aiming to drastically reduce CO2 emissions. These regulations mean that demand both for electric vehicles and the charging stations required to sustain them have and will continue to surge in popularity. As such, a steady flow of new, world-class technology is being developed around-the-clock to meet the ever-increasing expectations of consumers worldwide.

Lite-On, an industry-leading manufacturer in the field of Optoelectronics, offers a broad product portfolio to meet the needs of this booming market.

### WHY LITE-ON?

**47 Years:** In manufacturing LED packages, offering the industry's broadest product portfolio.

**7: Product portfolio** with outstanding breadth and depth

**3: World-class manufacturing sites,** providing great levels of quality and flexibility (Changzhou, Tianjin, Bangkok)

**35: Sales offices** serve customers across the globe

**3: R&D centres** to enhance competitiveness and innovative capabilities.

#### #1 in Consumer Electronics

Leading colour and Numeric LED Display provider in the consumer market

#### #1 in Mobiles and Wearables

LiteOn are the market leader in Optical Sensors, Flash LEDs and VCSEL Illuminators for Smartphones

#### #2 in Electrical Isolation

Global leader in Photocoupler Solutions

#### #3 in Industrial Applications

Leading position in IR LED in Industry and IoT Segments

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**LITEON**®

**FUTURE**  
**ELECTRONICS**

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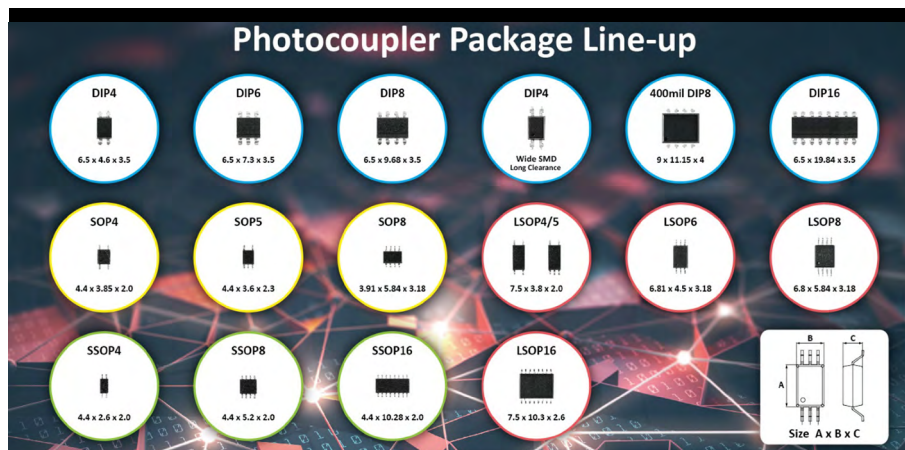
## Empowering a Greener Future

### LITE-ON EV TECHNOLOGY

#### Photocouplers

Lite-On offers a wide range of isolation products at high-performance, cost-efficient levels. Their photocouplers are available in multiple sizes, which you can find below. Their photocouplers use a double transfer mold technology, which includes high isolation voltages and certified safety certificates.

A key concern for Lite-On's is the company's environmental impact – with the company working hard to be environmentally friendly in both their design and manufacturing processes. For example, their parts are lead-free for DIP and mini-flat package photocouplers. They also have a Halogen-free options available for the customer.



Output Type	DIP Package					SOP Package							SSOP Package		
	DIP4	DIP6	DIP8	400mil DIP8	DIP16	SOP4	SOP5	SOP8	LSOP4/5	LSOP6	LSOP8	LSOP16	SSOP4	SSOP8	SSOP16
Transistor	•	•	•	-	•	•	-	•	•	-	-	-	•	•	•
Darlington	•	•	•	-	•	•	-	-	-	-	-	-	•	•	•
Triac	•	•	-	-	-	•	-	-	-	-	-	-	-	-	-
SSR	-	-	•	-	-	-	-	-	-	-	-	-	-	-	-
MOS Relay	•	•	-	-	-	•	-	-	-	-	-	-	-	-	-
High Speed	-	-	•	•	-	-	•	•	•	•	•	-	-	-	-
IPM	-	-	•	•	-	-	•	•	•	•	-	-	-	-	-
IGBT	-	-	•	•	-	-	•	•	•	•	•	-	-	-	-

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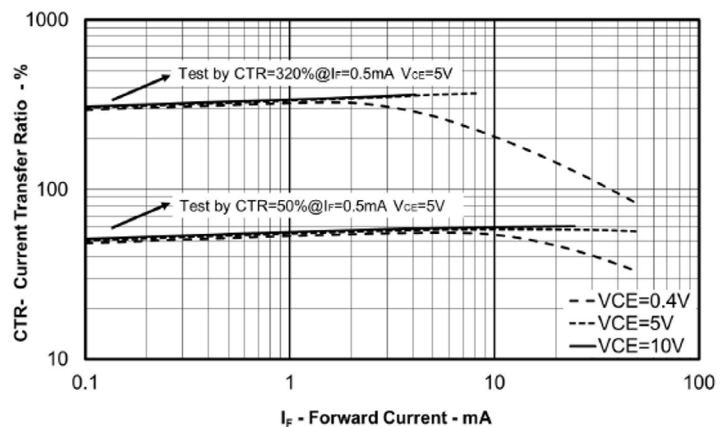
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### AUTOMOTIVE TRANSISTOR COUPLER

The circuit is a 3 phase motor controller. This enables a DC supply to drive a 3 phase AC motor. This' the type of circuit used in electric cars.

They effectively work as either an amplifier to control electric motor speeds, like a motor within an air conditioning system, or a switch to turn on and off all types of electrical devices, like you'd find in interior lighting solutions.

Transistor	Features
LTX-353 (SOP4)	<ul style="list-style-type: none"> <li>• Wide Operation Temperature from -55°C to 125°C</li> <li>• AEC-Q102 qualified</li> <li>• Low input current: 0.5mA</li> <li>• HEV( Hybrid Electric Vehicle) &amp; EV (Electric Vehicle) Applications</li> <li>• Safety: UL / CUL / VDE</li> <li>• Competition P/N: Toshiba TLX9185/TLX9102</li> </ul>
LTX-213 (SSOP4)	
LTX-1200 (LSOP4)	



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### VISIBLE AND INVISIBLE LED'S

Lite-On Optoelectronics primarily focuses on Visible LED and Invisible LED. Visible LED's refer to products which are primarily used for lighting displays and home appliances. Invisible LED's on the other hand refer to products such as photocouplers and sensors, where the light emitted is not as prominent.

LTPA-2720 Series		InGaN white	InGaN PCAmber	InGaAlP Yellow	InGaAlP Red	InGaAlP Super Red
0.5-0.7W(Z)						
	Type	2720ZWETU	2720ZAETU	2720ZYKTU	2720ZEKTU	2720ZRKTU
	Color	White	PC amber	Yellow	Red	Super Red
	Brightness (lm)	60-90	25-40	18-45	21-52	15-39
	Wavelength	(0.32,0.33)	(0.57,0.42)	585-595	612-630	627-637
	Binning If / Max If (mA)	200/400	150/200	200/250	200/250	200/250
	Voltage (V)	2.8-3.6	2.8-3.6	2.0-2.6	2.0-2.6	2.0-2.6
	Tjs (K/W) Operating Temp / Tj (°C)	15 -40-125 / 150	15 -40-125 / 150	18 -40-125 / 150	18 -40-125 / 150	18 -40-125 / 150
1.0-1.2W(Q)						
	Type	2720QWETU	2720QAETU	2720QYKTU	2720QEKTU	2720QRKTU
	Color	White	PC amber	Yellow	Red	Super Red
	Brightness (lm)	106-169	50-90	24-71	33-97	24-61
	Wavelength	(0.32,0.33)	(0.57,0.42)	585-595	612-630	627-637
	Binning If / Max If (mA)	350/400	300/400	350/500	350/500	350/500
	Voltage (V)	2.8-3.6	2.8-3.6	2.0-2.6	2.0-2.6	2.0-2.6
	Tjs (K/W) Operating Temp / Tj (°C)	15 -40-125 / 150	15 -40-125 / 150	15 -40-125 / 150	15 -40-125 / 150	15 -40-125 / 150
2.0-2.5W(V)						
	Type	2720VWETU	2720VAETU	2720VYKTU	2720VEKTU	2720VRKTU
	Color	White	PC amber	Yellow	Red	Super Red
	Brightness (lm)	212-315	100-159	50-112	71-125	50-90
	Wavelength	(0.32,0.33)	(0.57,0.42)	585-595	612-630	627-637
	Binning If / Max If (mA)	700/1000	600/700	700/1000	700/1000	700/1000
	Voltage (V)	2.8-3.6	2.8-3.6	2.0-2.8	2.0-2.8	2.0-2.8
	Tjs (K/W) Operating Temp / Tj (°C)	7 -40-125 / 150	7 -40-125 / 150	9 -40-125 / 150	9 -40-125 / 150	9 -40-125 / 150

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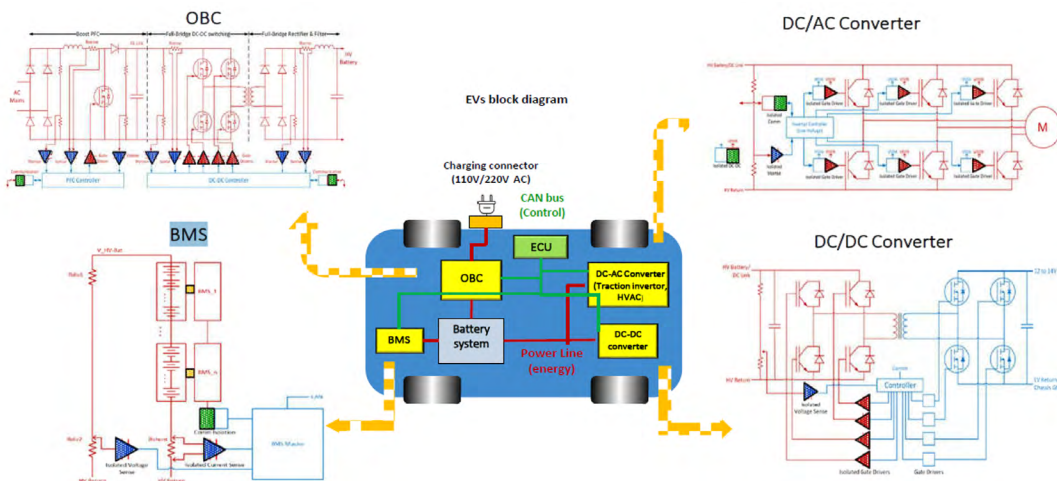
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### LITE-ON: WHAT CAN THEY BRING TO YOUR EV PROJECTS?

#### Photocouplers

There are numerous applications for Lite-On's portfolio of photocouplers within any EV project. Highlighted below are some of the applications where the company's products can provide benefit; among them are OBC (On Board Circuits), BMS (Battery Management Systems) and DC/AC and DC/DC converters.

The diagram below shows the circuit diagrams for the above listed applications and where Lite-On's photocouplers would fit within these boards.



Gate Driver <input type="checkbox"/>	Isolation Amplifier <input type="checkbox"/>	High Speed Coupler <input type="checkbox"/>	Photo Relay <input type="checkbox"/>
<b>O/P peak current 1.5A</b> LTV-6340/5340 LTV-6314/5314 <a href="#">LTV-155E</a>	<b>O/P peak current 1.5A</b> LTV-6340/5340 LTV-6314/5314 <a href="#">LTV-155E</a>	<b>1MBd:</b> 6N136 <a href="#">LTV-M501</a> LTV-50L	<b>OV-1500V:</b> <a href="#">LTV-821x</a> <a href="#">LTV-17xx</a>
<b>O/P peak current 3.0A</b> LTV-6341/5341 <a href="#">LTV-3120</a> <a href="#">LTV-152</a>	<b>O/P peak current 3.0A</b> LTV-6341/5341 <a href="#">LTV-3120</a> <a href="#">LTV-152</a>	<b>10MBd:</b> 6N137 <a href="#">LTV-M601/M61L</a> LTV-60/61L/561	<b>Under Product Qualification</b> LTX-7258 (1800V AEC-Q)  LTX-258J (1500V AEC-Q)
<b>O/P peak current 5.0A</b> LTV-33XJ	<b>O/P peak current 5.0A</b> LTV-33XJ		

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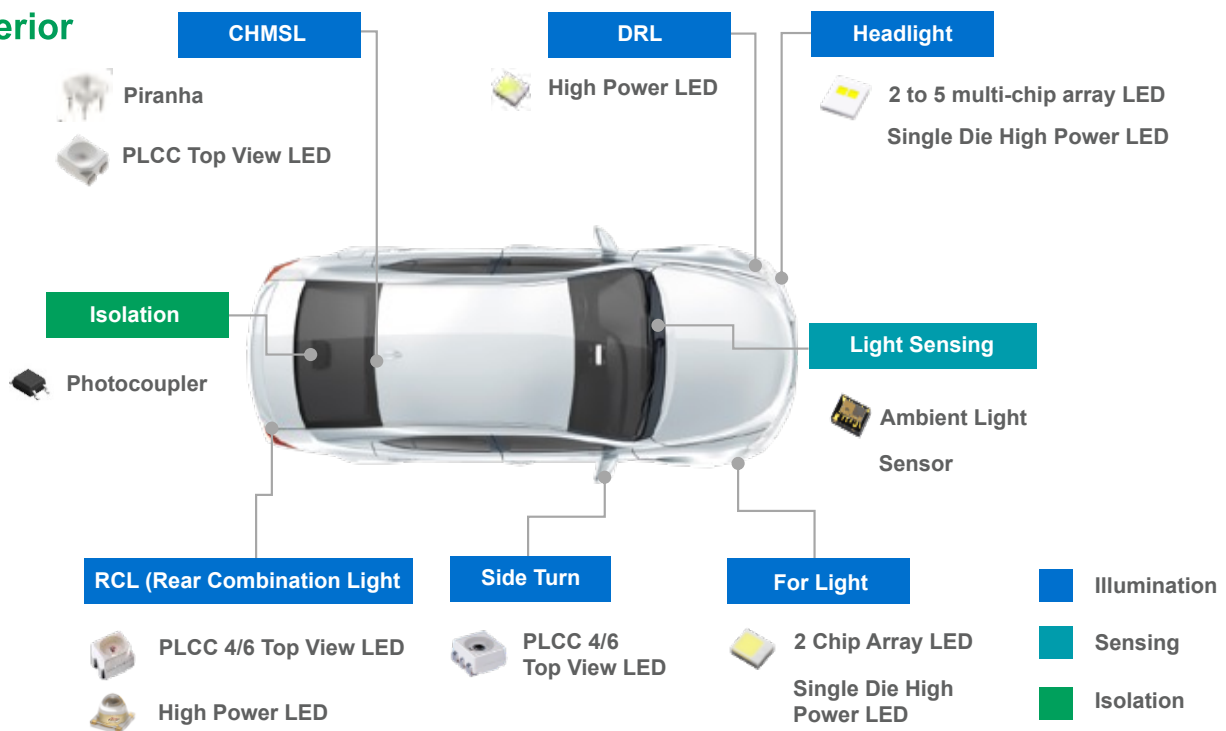
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### APPLICATIONS WITHIN EV LIGHTING

Due to a recent focus on the development of their LEDs, Lite-On are able to offer significantly better costs for their products over their competitors whilst satisfying customer needs.

**Automotive LED:** Lite-On offers custom designs and manufacturing for auto-makers across the globe.

#### Exterior



#### Interior

Application	Part number	Dimension (mm)
Top View	LTSA-E355C	3.5X3.5X1.1
	<a href="#">LTSA-M67K</a>	2.3X1.4X1.3
	<a href="#">LTSA-T67</a>	3.5X2.8X1.9
	<a href="#">LTSA-G683</a>	3.5X2.8X1.45
Side View	LTSA-G683	4.5X1.25X0.8
IC Embedded	E355	3.5X3.5X1.06

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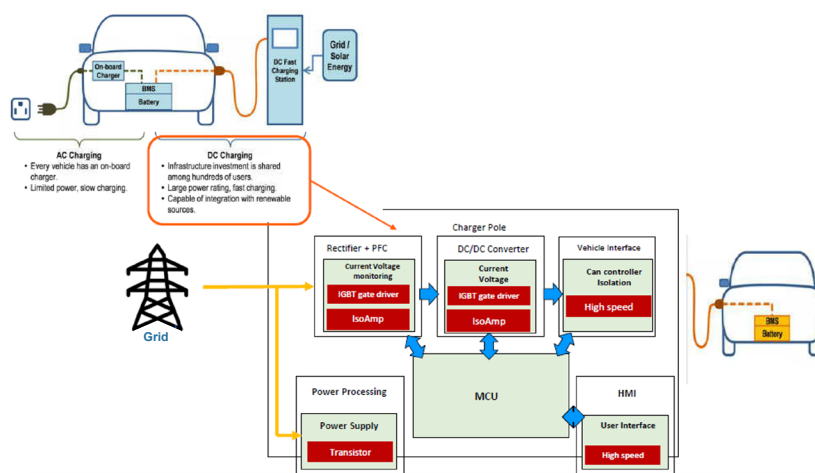
### APPLICATIONS WITHIN EV CHARGERS

Lite-On's products in this market primarily consist of AC chargers for OEM/ODM for electric cars.

#### These are offered for a series of specifications

- Public & Workplace chargers
- Home/Residential Chargers
- Public & Workplace three-phase
- Home/Residential three-phase

They're able to work together with customers to combine wireless communications, power data, and billing information into a single, interconnected charging station management system.



Gate Driver	Transistors (AEC-Q102 Qualified)
<b>O/P peak current 1.5A</b> LTV-6340/5340 LTV-6314/5314 <a href="#">LTV-155E</a>	LTX-353 (SOP4) LTX-213 (SSOP4) LTX-1200 (LSOP4)
<b>O/P peak current 3.0A</b> LTV-6341/5341 <a href="#">LTV-3120</a> <a href="#">LTV-152</a>	
<b>O/P peak current 5.0A</b> LTV-33XJ	

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### KEY CONSIDERATIONS FOR THE CUSTOMER

- With Lite-On's slate of products at competitive costs; what were the key obstacles for the customer when considering Lite-On on their AVL?
- Where can the customer fit Lite-On's portfolio of SMD LED's and photocouplers within their EV application?
- What photocoupler package-type would the customer require for their project: DIP, SOP or SSOP?

*For product inquiries regarding SMD LED's or Photocouplers, please contact the  
[optoquotes@futureelectronics.com](mailto:optoquotes@futureelectronics.com)*

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