

DURABLE ELECTRONICS & LIGHTING SOLUTIONS



Durel Division

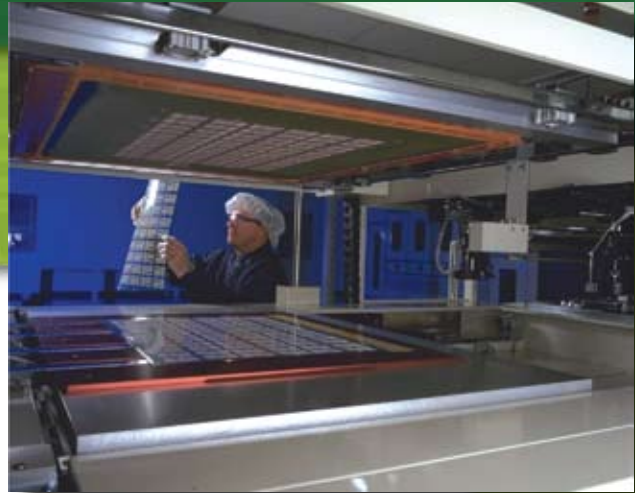
The world runs better with Rogers.®

CAPABILITIES

Ultra Fine Screen Printing

Miniaturize Devices and/or Increase Functionality

- Ultra Fine Lines & Spaces down to 0.1 mm
- 429 mm x 571 mm max. Printable Area (425 mm x 275 mm max. Individual Part Size)
- Printing & Etching of Transparent Conductive Coatings



Precision Registration

Improve Material Utilization with More Efficient Nesting Schemes

- Camera Registration
 - Feature-to-feature: 0.1 mm
 - Layer-to-layer: 0.2 mm
- Multi-Layer and Double-Sided Printing
- In-house Converting and Assembly
 - Laser & die cutting
 - Lamination & application of adhesives
 - LIF & ZIF interconnects

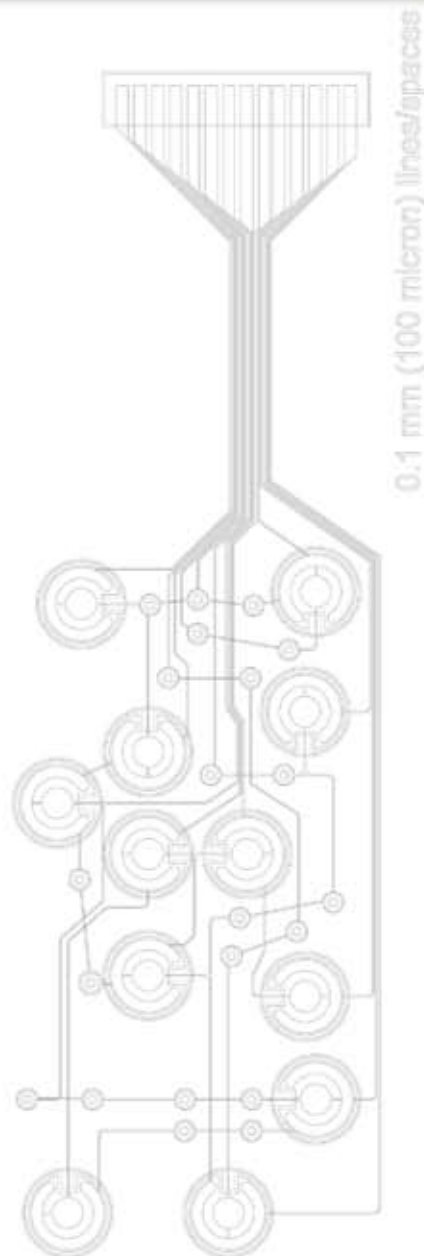
Design & Materials Expertise

Leverage Our Expertise to Improve Product Performance

- Extensive Ink Experience
 - Conductive, dielectric and specialty
- Flexible & Rigid Substrates
 - 25 micron PET
 - Polycarbonate, thermoformable urethane, polyimide, ceramics, paper and bi-layer laminates
- Precision Testing
 - Environmental, mechanical and parametric electrical

Global High Volume Manufacturing

- A Technology Center and Prototype Production Facility Located in Chandler, AZ, USA
- A Full Design and High Volume Production Facility Located in Suzhou, China
- Sales Engineering Support Located throughout US, Europe and Asia



USER INTERFACE SOLUTIONS

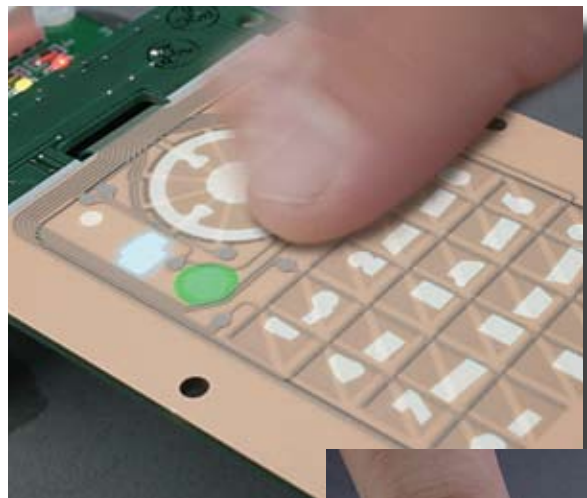


With over 20 years of design and high volume manufacturing experience in printed electronics, Rogers offers comprehensive capabilities in screen-printed electronics and associated services. These include product design, precision registration screen printing, finished product conversion and assembly, and electrical, mechanical and optical test capabilities. In addition, Rogers is a leader in providing innovative solutions in low-power, electroluminescent (EL) backlighting systems and EL driver integrated circuits.

Products and applications include medical electrodes and sensors, thin film batteries, conductive adhesives, antennas, electroluminescent lamps, light guide film (LGF) and illuminated advertising solutions for Point of Purchase (POP) and transit advertising.

Rogers also provides a variety of user interface solutions including EL and LGF backlighting, capacitive sensors, morphing display/key pad technology, and a portfolio of EL and piezo haptic drivers.

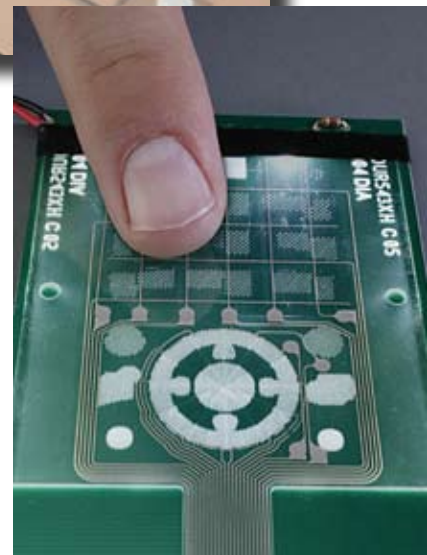
- dur-E-touch™ capacitive touch sensors with integrated EL or dur-E-film™ light guide film (LGF) backlighting in a monolithic structure provides a low profile approach to adding touch gesture inputs into traditional keypad structures with reduced component count.
- durELplex® morphing keypad technology can create interactive, mode based, transfective user interfaces that guide the user by activating only the keypad buttons needed (phone, numeric and alpha mode) for clear crisp daylight and night light visibility.
- durELplex® multi-segment EL lamp and driver technology allows the independent control of up to 60 lamp segments via a single I2C interface allowing for eye catching possibilities such as fade-in/fade-out segment transitions and creative animation sequences.
- dur-E-sense™ piezo haptic driver technology provides fast start-up, arbitrary waveform amplification, and high voltage output to allow for hundreds of unique 'touch' sensations. (See driver section)



dur-E-touch™ EL Capacitive Sensor



durELplex® Morphing Keypad Solution



dur-E-touch™ LGF Capacitive Sensor

DRIVER ELECTRONICS SOLUTIONS

Rogers Corporation has 20 years of experience in driver IC technology. We have developed a comprehensive portfolio of drivers for a variety of high voltage needs from wireless devices to consumer electronics. The applications for these markets include EL backlighting and morphing keypad/display solutions. In addition, we have recently added a line of high and low voltage haptic drivers to our portfolio of IC solutions.

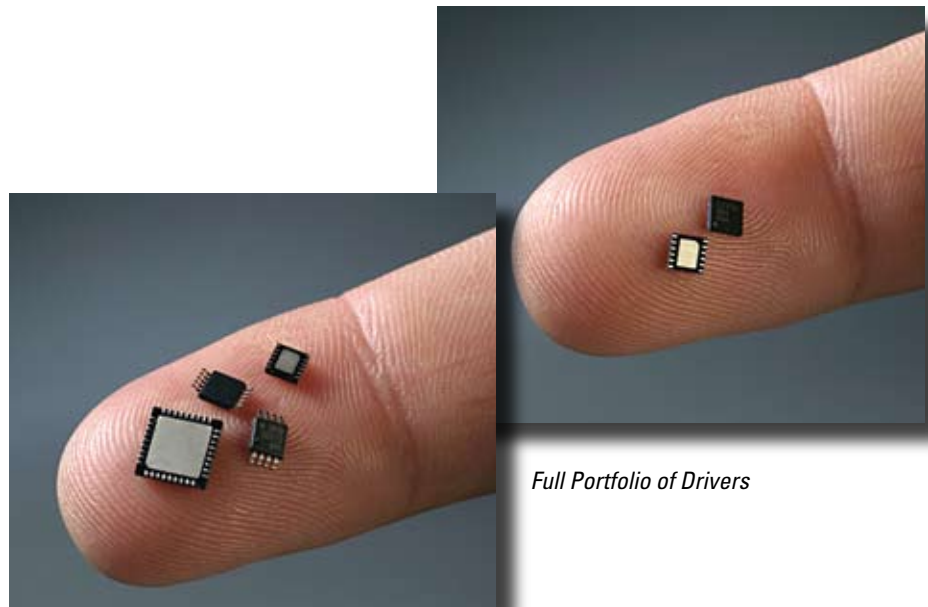
Rogers' key IC driver benefits include:

- Global Technology Innovation System Solution Provider
- Expert in Consumer Product Solution, Providing the Sight, Touch, and Hearing for the User
- Technical Solutions Provider:
 - High voltage applications
 - Digital and analog /mixed signal applications
 - Patented technologies
- Various Small and Thin Product Packages Available in CSP, DFN/QFN, MSOP, and Custom Thin Modules.



Portfolio of Drivers for EL Advertising Market

- RoHS Compliant
- Low Power, Efficient, Low Noise, Robust, Reliable, and Low Cost Product Offerings
- Design Support with Prototyping and Manufacturing
 - Turn-key
 - Flexible
 - Agile
 - Quick turn
- Designer Kits Available
 - User friendly
 - Customize and optimize
- Product Designs for Applications in:
 - Portable communications
 - Consumer products



Full Portfolio of Drivers

PRINTED ELECTRONICS SOLUTIONS

Medical Sensor and Electrode

Rogers provides a portfolio of products and process technologies that improve patient comfort and expand product functionalities and capabilities

- High Precision Conductive and Dielectric Ink Screen Printing to Enable Complex Functions in a Smaller Footprint
- Rigid and Flexible Substrate Capability
 - PET film
 - PUR film
 - PUR & Si Foams
- Ability to Integrate Key Pad, Display and Lighting Functionality (Including Drivers)
- Flat Battery Technology for Independent Powering of Onboard Features Without Burdening or Modifying Primary Monitoring Electronics and Security Features
- Adhesive Coating and Laminating Capability to Enhance Performance and Increase Patient Comfort
 - Acrylic
 - PUR
 - Silicone

Battery

Screen Printable 3V Li-Metal Flat Batteries

Application

- Powered Cards
- Electronics and Sensors
- Thin Film Medical Products
- RFID
- Advertising Media



Battery Powered Security Cards

Product Features

- Capacity 10mAh - 25mAh
- Shelf Life Up to 3 Years
- Ultra Thin: Less Than 0.45mm
- Flexible: ISO 7816 Certified
- Survives Hot Lamination (135°C)
- Safe and Environmentally Friendly
- UL Listed: UL1642



Medical Sensors and Electrodes



Backlit POP and Transit Signs

Advertising

Rogers Corporation has over 20 years of experience in developing innovative solutions in energy efficient, electroluminescent (EL) backlighting systems and EL drivers. Rogers' highly reliable thermal transfer and screen printing technologies for selectively animated lighting has been used in a wide range of markets. Rogers' new lighting solutions, using DUREL® EL technology, is ideal for Point-Of-Purchase (POP) and transit displays for the out-of-home (OOH) advertising and the signage markets.

Rogers' new technologies will give any graphics printer the ability to produce thin, animated, compelling backlit signs that command a premium from advertisers and allow them to be a premier Finishing Center with the following benefits:

- Easy to Produce – Using Rogers' proprietary EL materials, any graphics printer can produce bright, effective backlit signs using familiar printing processes.
- From POP to Transit – The EL substrate is available in roll widths of 15" up to 30". These can be further assembled into much larger areas using simple lamination and assembly techniques enabling all sizes of OOH advertising to be backlit.
- Short Lead-time – Rogers' lighting solutions allow the graphics printer to go from Design to Sign in minutes.
- No Setup Costs – The thermal printing system enables low volume runs by eliminating high setup costs. You can print one, hundreds, or thousands of units.
- "Green" – Rogers' EL substrates and lamps are environmentally friendly and contain no heavy metals.





For more information, call the Rogers location nearest to you.

Durel Division
Chandler, AZ, USA
tel: +1.480.917.6000
fax: +1.480.917.6049

Rogers Technologies (Suzhou) Co., Ltd.
No. 368 Shenxu Road
Suzhou Industrial Park
Suzhou 215122
PRC
tel: +86.512.6258.2700
fax: +86.512.6258.2858

www.rogerscorp.com/durel

For a complete listing of the Rogers RoHS/WEEE compatible products, visit www.rogersgreenworld.com.



CONTACT INFORMATION

Location	Office	Telephone	Fax
US	Rogers Corporation	860.774.9605	860.779.5509
Belgium	Rogers BVBA	+32.9.2353611	+32.9.2353658
Taiwan	Rogers Taiwan Inc.	+886.2.8660.9056	+886.2.8660.9057
Singapore	Rogers Technologies (Singapore) Inc.	+65.6747.3521	+65.6747.7425
Japan	Rogers Japan Inc.	+81.3.5200.2700	+81.3.5200.0571
Korea	Rogers Korea Inc.	+82.31.291.3660	+82.31.291.3610
Shanghai	Rogers Shanghai	+86.21.62175599	+86.21.62677913
Beijing	Rogers Beijing	+86.10.5820.7667	+86.10.5820.7997
Shenzhen	Rogers Shenzhen	+86.755.8236.6060	+86.755.8236.6123

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