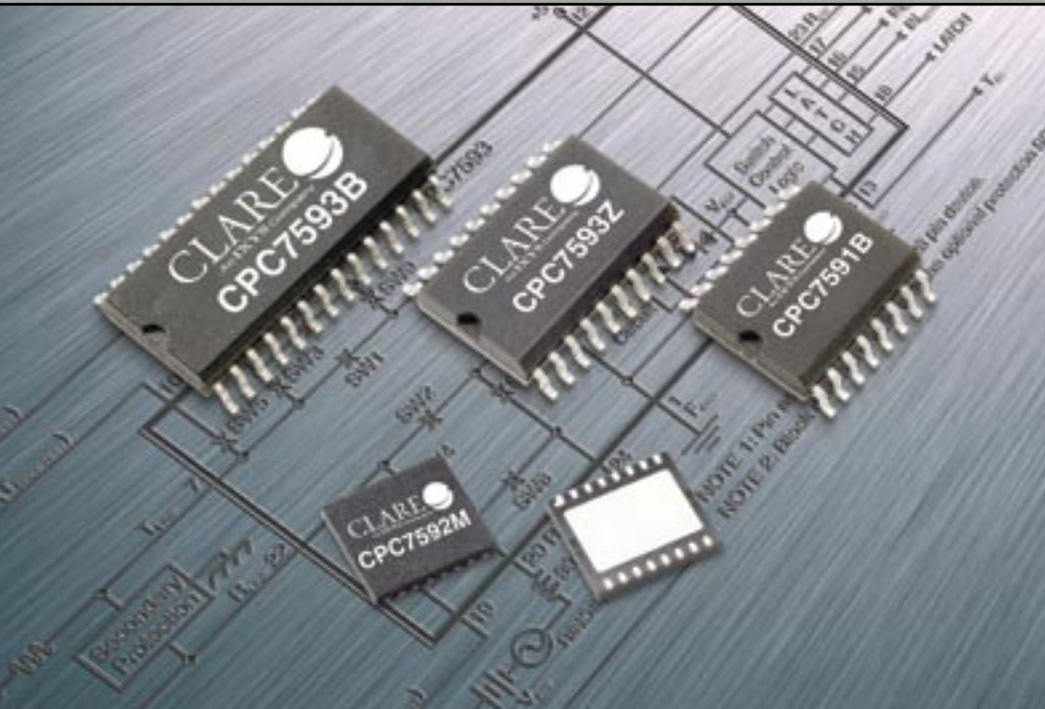


Line Card Access Switch (LCAS)

Next Generation CPC759x Product Family



Features

- Manufactured in Clare's 330V BCDMOS SOI technology
- Monolithic IC reliability
- Low, matched on-resistance enabling high longitudinal balance
- Built-in zero-cross switching
- Impulse noise reduction
- SLIC tertiary protection via integrated current limiting, voltage clamping and thermal shutdown
- Robust power cross and lightning surge performance
- TTL logic level inputs for 3.3V logic interfaces
- Ultra-low power consumption of < 10mW
- Small surface mount SOIC or MLP package
- MLP offers a 65% area savings vs. fourth generation EMRs
- Pin-compatible to the CPC758x family

Description

The Line Card Access Switch (LCAS) product family remains an integral part of Clare's product portfolio for the telecommunications market. Clare's unique high-voltage Silicon-On-Insulator (SOI) process technology, manufactured in its state-of-the-art fab in Beverly, MA, provides the foundation for a multitude of silicon solutions that enable low power, high density line cards. The LCAS product family provides the high-voltage functionality necessary to replace all 2-Form-C electromechanical relays found on traditional voice and integrated voice + data (IVD) line cards for cut off, ringing access, drop test, ringing test, and channel test.

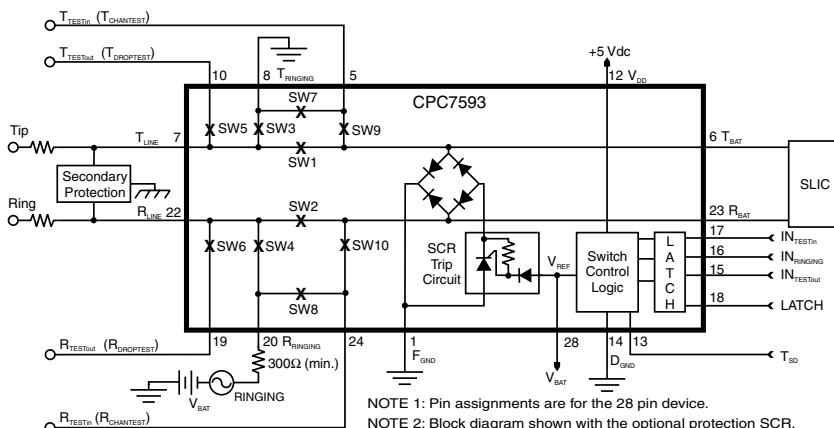
With the recent introduction of the next generation LCAS family, Clare has added several important features to make line card design easier. In addition to containing all the functionality of the CPC758x family, the CPC7591, CPC7592, CPC7593 and CPC7594 have TTL compatible logic inputs, increased dv/dt immunity for the ringing access switch, and smart logic for safe power up and hot plug state control.

All LCAS products are also offered in a Micro-Leadframe Package (MLP), where LCAS performance comes at a fraction of the size and makes 48 and 64 channel line cards a reality. Even compared to fourth generation Electromechanical Relays (EMRs), the MLP offers a dramatic area and height savings of 65% and 80% respectively.

Applications

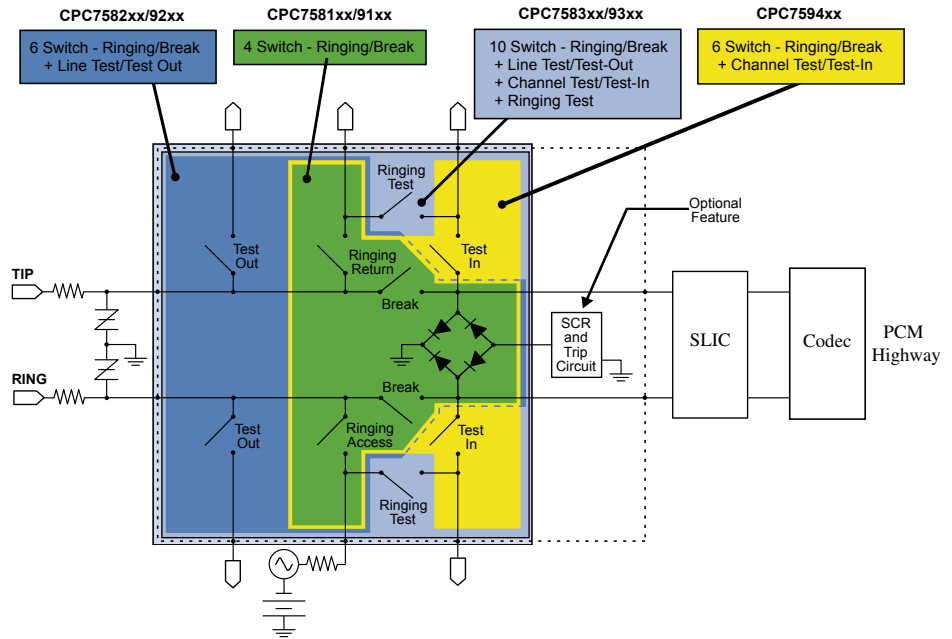
- Standard Voice Linecards
- Integrated Voice and Data (IVD) Linecards
- VOIP Gateways
- Central Offices (CO)
- Digital Loop Carriers (DLC)
- Digitally Added Main Line (DAML)
- Hybrid Fiber Coax (HFC)
- Fiber in the Loop (FITL)
- Pair Gain Systems
- Channel banks
- PBX systems

Application Circuit:



Line Card Access Switch (LCAS) Next Generation CPC759x Product Family

Block Diagrams:



Application notes and reference designs available for quick time to market

- AN-100, "Design Surge and Power Fault Protection for Subscriber Line Interfaces."
- AN-144, "Impulse Noise Benefits of Line Card Access Switches."
- AN-154, "LCAS Longitudinal Balance Calculator XL Spreadsheet for Line Card Applications."

LCAS Products

Product Part Number	# Switches	Switching Pairs					Protection SCR Minimum Hold Current	Logic States	Package Type	MLP Dimensions (mm)		
		Break	Ringing	Test Out	Test In	Ringing Test				W	L	H
CPC7591xA	4	•	•				110	3	16 SOIC/MLP	6	7	0.9
CPC7591xB	4	•	•					3	16 SOIC/MLP	6	7	0.9
CPC7592xA	6	•	•	•			60	4	16 SOIC/MLP	6	7	0.9
CPC7592xB	6	•	•	•				4	16 SOIC/MLP	6	7	0.9
CPC7592xC	6	•	•	•			110	5	16 SOIC/MLP	6	7	0.9
CPC7593xA	10	•	•	•	•	•	110	7	20 SOIC or 28 SOIC/MLP	7	11	0.9
CPC7593xB	10	•	•	•	•	•		7	20 SOIC or 28 SOIC/MLP	7	11	0.9
CPC7593xC	10	•	•	•	•	•	110	8	20 SOIC or 28 SOIC/MLP	7	11	0.9
CPC7593xD	10	•	•	•	•	•		8	20 SOIC or 28 SOIC/MLP	7	11	0.9
CPC7594xA	6	•	•		•		110	4	16 SOIC/MLP	6	7	0.9
CPC7594xB	6	•	•		•			4	16 SOIC/MLP	6	7	0.9
CPC7594xC	6	•	•		•		110	4	16 SOIC/MLP	6	7	0.9

x = "B" for 16/28 SOIC version, "M" for MLP version, "Z" for 20 SOIC



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**MLP Option Offers
65% Space Savings vs.
4th Generation EMRs**

