



# 8-bit Automotive: S08 Family Customer Benefits

Freescale microcontrollers are organized by families where each microcontroller within the family has the same general set of benefits.

The purpose of this matrix is to help the reader identify the S08 family that matches their cost savings, development time savings,

power savings, flexibility, or market focus needs. Once the appropriate family is identified, then the reader can determine the device they need.

	Automotive S08 Families							
	DZ	DV	DN	EN	EL	SG	SL	AW
<b>Cost &amp; Board Space Savings</b>								
On-chip components save cost, save board space, and improve quality by eliminating the need for external crystal, LVI circuit, voltage regulator, I/O mux, watchdog circuit, ADC, and development tools.	✓	✓	✓	✓	✓	✓	✓	✓
On-chip EEPROM saves cost, saves board space, and improves quality by eliminating the need for external components.	✓		✓		✓		✓	
Pin compatibility and scalability across DZ, DV, DN, and EN families offers customers future expandability.	✓	✓	✓	✓				
Pin compatibility and scalability across EL, SL, and SG families offers customers future expandability.					✓	✓	✓	
High pin count devices (48-pin and above) save cost by eliminating the need for I/O expanders.	✓	✓	✓	✓				✓
Wide Flash range (16K-60K) allows customer to expand application within same family and avoid unnecessary development costs.	✓	✓	✓					✓
Slave LIN Interface Controller (SLIC) saves cost and board space by reducing external components required; no need for external clock, resonator, or crystal for LIN slaves.					✓		✓	
Entry-level device, optimized for cost sensitive applications.						✓		✓
<b>Development Time Savings</b>								
On-chip emulation/debug reduces development time since changes can be made in-application and in real-time.	✓	✓	✓	✓	✓	✓	✓	✓
SLIC saves development time by automatically adjusting to LIN speed with no special code requirements—plug and play orientation.					✓		✓	
<b>Power Savings &amp; Increased Performance</b>								
0.25µ technology and the S08 core lower power consumption and increase CPU performance to 40MHz, which allows customers to add more embedded content while keeping within their power budgets.	✓	✓	✓	✓	✓	✓	✓	✓
SLIC increases system performance by reducing interrupts and code size; no oscillator trimming is ever required; for LIN slave nodes.					✓		✓	
<b>Flexibility</b>								
Multi-purpose clock generator (PLL, FLL, OSC) provides several timing options.	✓	✓	✓	✓				
Internal Clock Source (ICS) module provides a low power, internal oscillator capable of 1.5% accuracy across temperature and voltage.					✓	✓	✓	
Internal Clock Generator (ICG)—Provides accurate on-chip clock source and saves cost by eliminating the need for external components.								✓
<b>Market Focus</b>								
CAN	✓	✓						
LIN Master	✓	✓	✓					
LIN Slave Nodes				✓	✓	✓	✓	✓
General Market	✓	✓	✓	✓	✓	✓	✓	✓
Space constrained applications					✓	✓	✓	

**Learn More:** For more information about Freescale products, please visit [www.freescale.com](http://www.freescale.com).

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