



## Differences between UCC217xx and ISO5x5x

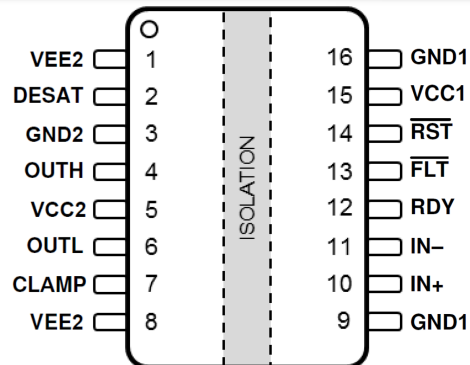
### Pinout Differentiation

UCC21710	UCC21732/9	UCC21736	UCC21750/9
<p><b>Common features for differentiation for all derivatives:</b></p> <ul style="list-style-type: none"> <li>▪ <b>High (<math>\pm 10A</math>) drive strength:</b> Eliminate discrete high-current buffers, Perfect for power modules, Higher system reliability, Lower system cost</li> <li>▪ Eliminate discrete high-current buffers, Perfect for power modules, Higher system reliability, Lower system cost</li> <li>▪ <b>Isolated Analog-to-Digital PWM Sensor</b> (<i>Application Example:</i> Switch temperature sensing, DC bus sensing, aux supply monitoring, alarm, ...)</li> </ul>			
<ul style="list-style-type: none"> <li>▪ <i>SC Protection</i> : OC Detection</li> <li>▪ <i>Miller Clamp</i> : Internal</li> <li>▪ <i>Safe Shutdown</i> : Soft Turn-OFF</li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>SC Protection</i> : OC Detection</li> <li>▪ <i>Miller Clamp</i> : External</li> <li>▪ <i>Safe Shutdown</i> : 2-Level Turn OFF + Soft Turn-OFF</li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Active Short-Circuit Protection</i></li> <li>▪ <i>SC Protection</i> : OC Detection</li> <li>▪ <i>Miller Clamp</i> : External</li> <li>▪ <i>Safe Shutdown</i> : Soft Turn-OFF</li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>SC Protection</i> : DESAT</li> <li>▪ <i>Miller Clamp</i> : Internal</li> <li>▪ <i>Safe Shutdown</i> : Soft Turn-OFF</li> </ul>

**i** Pins in **Black** have same pin locations as in ISO5852S or ISO5452. Pin in **Blue** are new pin definitions.

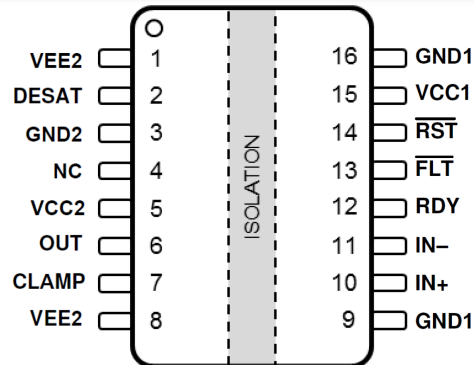


## ISO5852S / ISO5452 : AEC-Q100



Not to scale

## ISO5851 / ISO5451 : AEC-Q100



Not to scale

### Common features for differentiation for all derivatives:


- (+2.5 / -5A) drive strength
- DESAT detection and reporting

- *SC Protection* : DESAT Detection
- *Miller Clamp* : Internal
- *Safe Shutdown* : Soft Turn-OFF
- Split outputs

- *SC Protection* : DESAT Detection
- *Miller Clamp* : Internal



## Device Comparison Table

PARAMETER		UCC21710	UCC21732	UCC21736	UCC21739	UCC21759	UCC21750	ISO5451	ISO5452	ISO5851	ISO5852S
<b>Isolation Rating</b>		Reinforced				Basic		Reinforced			
<b>Isolation</b>	CMTI	> 150V/ns						>50V/ns		>100V/ns	
	VIOWM: <i>Max Working (DC)</i>	2121V			990V		2121V	1420V		2121V	
	VIOTM: <i>Max Transient</i>	8000V			4242V		8000V				
	VISO (RMS, 60s): <i>Max Surge</i>	5700V			3000V		5700V				
<b>Output Driver</b>	Max Drive Current	+10A/-10A						+2.5A/-5A			
	Max Differential Voltage (VDD-VEE)	33V						30V			
<b>Driver Specs</b>	Prop Delay	90ns						76 ns			
	Part-to-part Delay Matching	<30ns									
<b>Gate driver enhanced features</b>	Split Output	Yes						No	Yes	No	Yes
	Active Miller Clamp (AMC)	Internal (4A)	External				Internal (4A)	Internal (2.5A)			
	VEE UVLO	No	No	Yes (-3V)	No		Yes (-2.25V)				
	Isolated Analog Channel	Yes		No	Yes		No				
<b>Protection</b>	Active Short Circuit (ASC)	No		Yes	No		No				
	Short-circuit Detection	Over-Current				DESAT		DESAT			
	Safe Shutdown Scheme	Soft Turn-Off (400mA)	2-Level Turn-Off (9V)	Soft Turn-Off (900mA)	2-Level Turn-Off (9V)	Soft Turn-Off (400mA)		No	Soft Turn-Off (130mA)	No	Soft Turn OFF (130mA)
	Fault Feedback	Yes (600ns)						Yes (<1.4us)			
	Fault RST & RDY							Yes			
<b>Package</b>	Package Options	16-pin SOIC DW 10.3mm x 7.5mm									
<b>Device Benefit</b>	Product Differentiation	Internal AMC + STO	External AMC + 2LTO	ASC Protection VEE UVLO	Basic-ISO version of UCC21732	Basic-ISO version of UCC21750	DESAT + STO	Single output	Split output + STO	Single output	Split output + STO
 : <b>AEC-Q100</b> AEC-Q100 Version		Yes									