Differences between UCC217xx and ISO5x5x

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1 UCC217XX Device Comparison Table

PARAMETERS		UCC21710	UCC21717	UCC21732	UCC21737	UCC21738	UCC21739	UCC21750	UCC21755	UCC21756	UCC21759
Isolation	Isolation Type	Reinforced					Basic	Reinforced			Basic
	Viso (UL withstand isolation voltage)	5.7kVrms					3kVrms	5.7kVrms			3kVrms
Gate Driver Enhanced Features	Miller Clamp Option	Internal		External				Internal			
	VEE UVLO	No			Yes (-3V)	No					
	Isolated Analog Channel	Yes			No		Yes				
Protection	Active Short Circuit (ASC)	No			Yes		No				

	OverCurrent or DESATuration	OC					DESAT			
	DESAT Threshold Voltage	N/A					9V	5V	5V	9V
	Safe Shutdown Scheme	Soft turn-off		Two-level turn-off	Soft turn-off		Two-level turn-off	Soft turn-off		
	Safe Shutdown Current	400mA		900mA				400mA	900mA	400mA
Product Differentiation		OC+STO + CLMPI	UCC21710 with EN-initiated STO	OC+ 2LTO+CL MPE	OC+STO+ CLMPE + VEE UVLO	UCC21737 without VEE UVLO	UCC2173 2 with basic isolation	DESAT	UCC21750 with 5V DESAT threshold	UCC21755 with 900mA STO current	UCC217 50 with basic isolation

2 ISO5X5X & UCC217XX Device Comparison Table

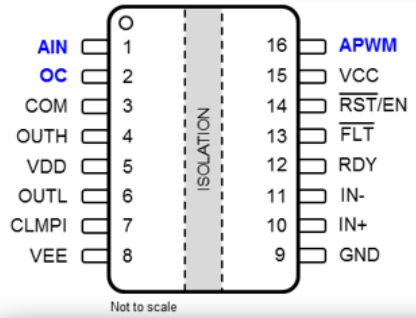
PARAMETERS		ISO5451	ISO5452	ISO5851	ISO5852S	**UCC217XX (Spin details on table above)**
Isolation Rating		Reinforced				Basic/Reinforced
Isolation	CMTI	>50V/ns		>100V/ns		>150V/ns
	Viso (UL withstand isolation voltage)	5.7kVrms				3kVrms or 5.7kVrms
Output Driver	Peak Current	+2.5A/-5A				+10A/-10A
	Max Differential Voltage (VDD-VEE)	30V				33V
Driver Timing	Propagation Delay	76ns				90ns
Gate Driver Enhanced Features	Miller Clamp Option	Internal				Internal/External
	Split Output	No	Yes	No	Yes	Yes

	VEE UVLO	Yes (-2.25V)				Depending on spin
	Isolated Analog Channel	No				Depending on spin
Protection	Active Short Circuit (ASC)	No				Depending on spin
	OverCurrent or DESATuration Protection?	DESAT				Depending on spin
	DESAT Threshold Voltage	9V				5V/9V
	Safe Shutdown Scheme	None	STO	None	STO	STO/2LTO
	Safe Shutdown Current	N/A	130mA	N/A	130mA	400mA/900mA

3 Pinout Differentiation for Some Variants

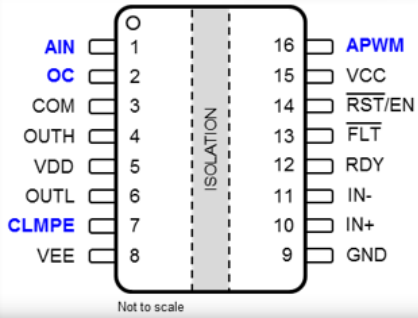
Pins in **Black** have same pin locations as in ISO5852S or ISO5452. Pin in **Blue** are new pin definitions.

UCC21710 : AEC-Q100



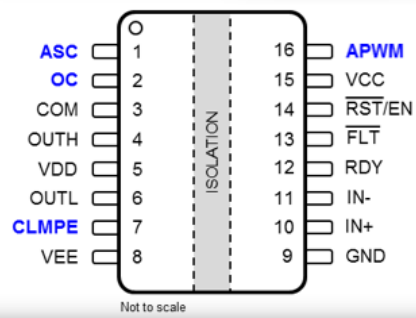
- *SC Protection* : OC Detection
- *Miller Clamp* : Internal
- *Safe Shutdown* : Soft Turn-OFF

UCC21732/9 : AEC-Q100



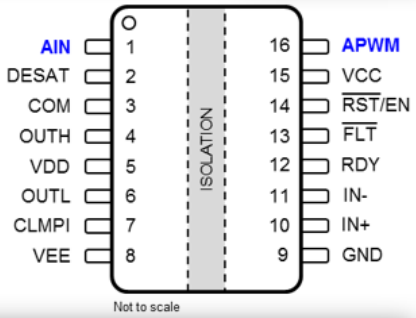
- *SC Protection* : OC Detection
- *Miller Clamp* : External
- *Safe Shutdown* : 2-Level Turn OFF + Soft Turn-OFF

UCC21736 : AEC-Q100



- *Active Short-Circuit Protection*
- *SC Protection* : OC Detection
- *Miller Clamp* : External
- *Safe Shutdown* : Soft Turn-OFF

UCC21750/9 : AEC-Q100



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

Common features for differentiation for all derivatives:

- **High (±10A) drive strength**: Eliminate discrete high-current buffers, Perfect for power modules, Higher system reliability, Lower system cost
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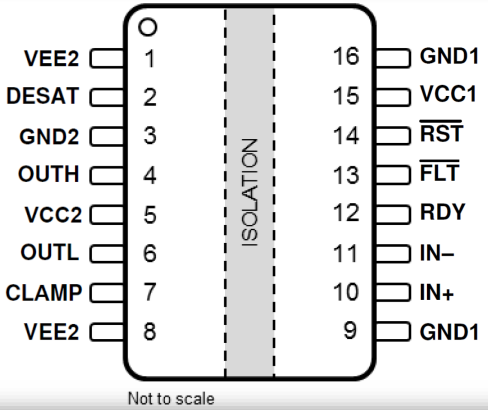
- **Isolated Analog-to-Digital PWM Sensor** (*Application Example*: Switch temperature sensing, DC bus sensing, aux supply monitoring, alarm, …)

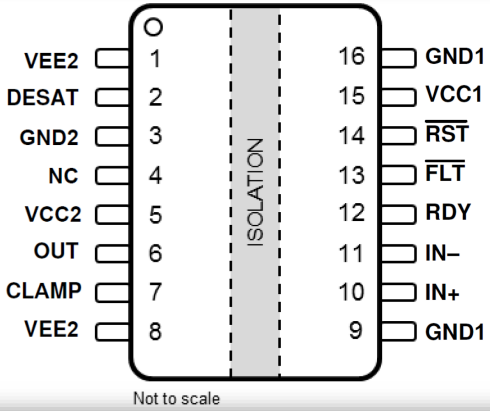
ISO5852S / ISO5452 : AEC-Q100



Not to scale

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

ISO5851 / ISO5451 : AEC-Q100



Not to scale

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

Common features for differentiation for all derivatives:

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