

TCAN1043 vs TCAN1043A vs TCAN1043N

	TI		
Section	TCAN1043	TCAN1043A	TCAN1043N
CAN-FD/SIC	ISO 11898:2-2016	ISO 11898:2-2016	ISO 11898:2-2024 Set A/B
<u>TXDCLP</u>	No	Yes	No
<u>SWE Timer</u>	No	Yes	No
Exit from Sleep after UVCC recovery	Automatic transition after VCC>UVCC	toggling of nSTB from L-to-H	Automatic transition after VCC>UVCC OR toggling of nSTB from L-to-H*
UVIO behavior	VIO < UVIO (before t _{UV} expires) the device stays in Normal mode	VIO < UVIO (before t _{UV} expires) transitions the device from normal to Standby mode	VIO < UVIO (before t _{UV} expires) transitions the device from normal to Standby mode
nFAULT in Sleep mode	NFAULT pin is High if VIO is present	nFAULT pin is floating (even if VIO is present)	NFAULT pin state is High if VIO present; NFAULT pin in floating if VIO is not present

TCAN1463 vs TCAN1473A vs TCAN1473

Section	TCAN1463	TCAN1473A	TCAN1473
CAN-FD/SIC	CiA 601-4	ISO 11898:2-2024 SIC (Annex A)	ISO 11898:2-2024 SIC (Annex A)
<u>TXDCLP</u>	Yes	Yes	No
<u>SWE_Timer</u>	Yes	Yes	No
INH_MASK	Yes	Yes	No
Exit from Sleep after UVCC recovery	Explicit toggling of nSTB from L-to-H	toggling of nSTB from L-to-H	Automatic transition due to $VCC > UVCC$ OR toggling of nSTB from L-to-H
nFAULT in Sleep Mode	nFAULT pin is floating in Sleep mode (even if VIO is present)	nFAULT pin is floating in Sleep mode (even if VIO is present)	NFAULT pin state is High if VIO is present; NFAULT pin in floating if VIO is not present

[See next slide for SIC standard changes](#)

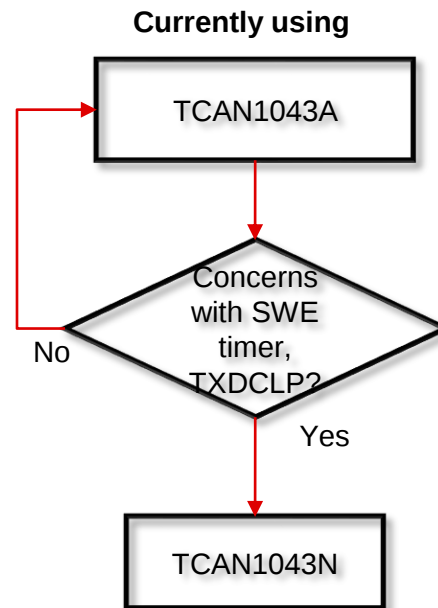
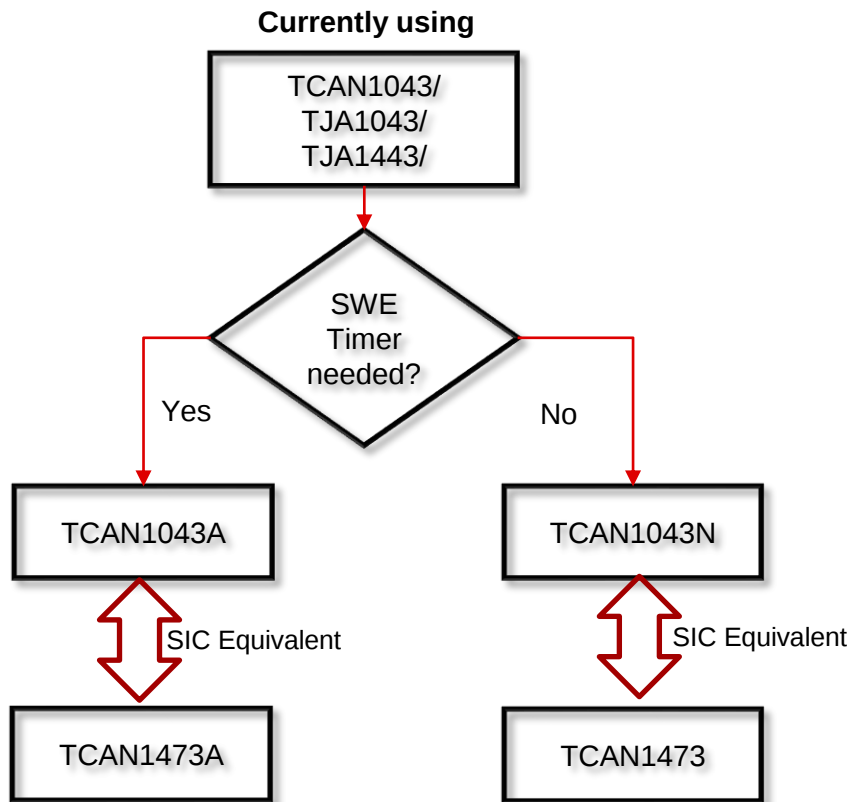
Software Compatibility Between TCAN1043 and TCAN1463/73 variants

	← S/W Compatible →			← S/W Compatible →		
Section	TCAN1043A	TCAN1463	TCAN1473A	TCAN1043	TCAN1043N	TCAN1473
CAN-FD/SIC	ISO 11898:2-2016 CAN-FD	CiA 601-4 CAN-FD SIC	ISO 11898:2-2024 CAN-FD SIC (Annex A)	ISO 11898:2-2016 CAN-FD	ISO 11898:2-2024 CAN-FD Set A/B	ISO 11898:2-2024 CAN-FD SIC (Annex A)
<u>TXDCLP</u>	Yes	Yes	Yes	No	No	No
<u>SWE Timer</u>	Yes	Yes	Yes	No	No	No
<u>INH_MASK</u>	No	No (Pin 11 floating/GND) Yes (Pin 11 to MCU)	No (Pin 11 floating/GND) Yes (Pin 11 to MCU)	No	No	No
Exit from Sleep* after UVCC recovery	toggling of nSTB from L-to-H ⁺	toggling of nSTB from L-to-H ⁺	toggling of nSTB from L-to-H ⁺	Automatic transition after VCC>UVCC	Automatic transition after VCC>UVCC OR toggling of nSTB from L-to-H ⁺	Automatic transition due to VCC>UVCC OR toggling of nSTB from L-to-H ⁺
nFAULT in Sleep mode	nFAULT pin is floating (even if VIO is present)	nFAULT pin is floating (even if VIO is present)	nFAULT pin is floating (even if VIO is present)	NFAULT pin state is High if VIO present; NFAULT pin in floating if VIO is not present	NFAULT pin state is High if VIO present; NFAULT pin in floating if VIO is not present	NFAULT pin state is High if VIO is present; NFAULT pin in floating if VIO is not present

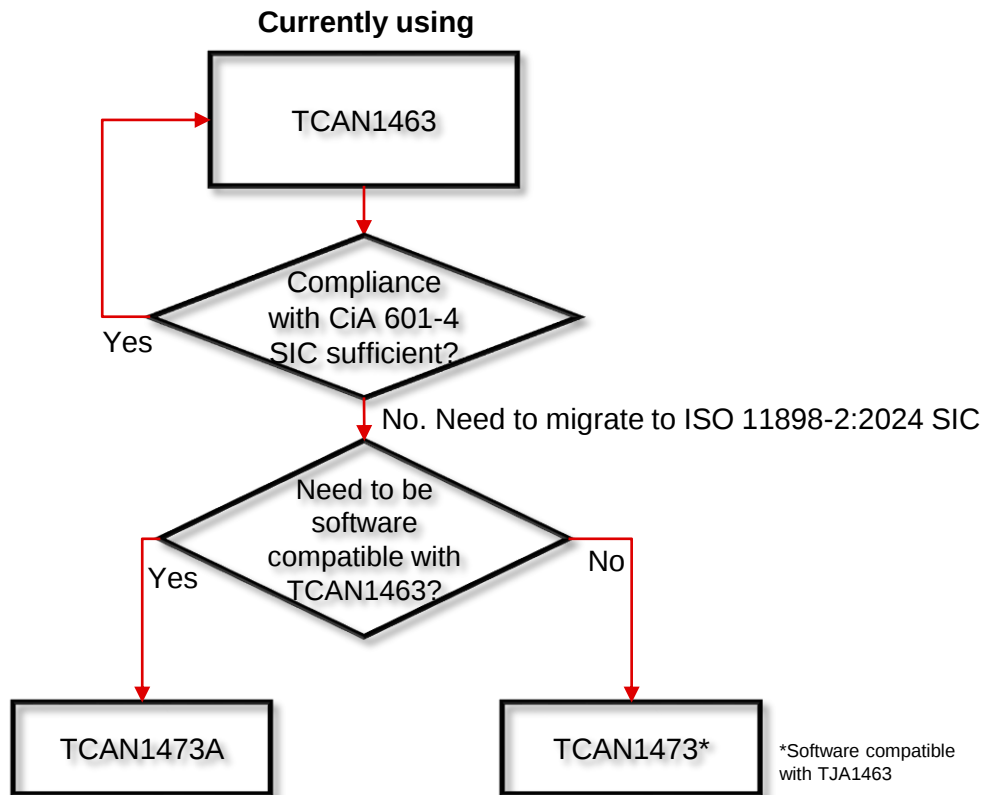
CiA 601-4 vs ISO 11898-2:2024 Set C vs Annex A

Standard	CiA 601-4	ISO 11898-2:2024 Set C	ISO 11898-2:2024 Annex A
Differential SIC impedance (active recessive phase)	No Spec	[75, 133]	[75, 133]
Start time of active recessive phase t_{SIC_START}	NA	120ns max	120ns max
End time of active recessive phase t_{SIC_END}	NA	355ns min	355ns min
Start time of passive recessive phase t_{REC_START}	530ns max	530ns max	530ns max
CAN bus load range	$50 \leq RL \leq 65$	$50 \leq RL \leq 65$	$45 \leq RL \leq 65$
VOD_min at 45Ω diff. load	1.4 V	1.4 V	1.5 V
Diff. load for transient timing parameters	60Ω	60Ω	$45 \leq RL \leq 65$
Vsym load	60Ω	60Ω	$45 \leq RL \leq 65$
Vsym variation allowed	±10%	±10%	±5%
wake_tfilter	[0.5μs, 1.8μs]	[0.5μs, 1.8μs]	[0.5μs, 0.95μs]
Wake Up pattern	dom-rec-dom	dom-rec-dom	dom-rec-dom-rec

Transition plan for TCAN1043/TCAN1043A



Transition plan for TCAN1463

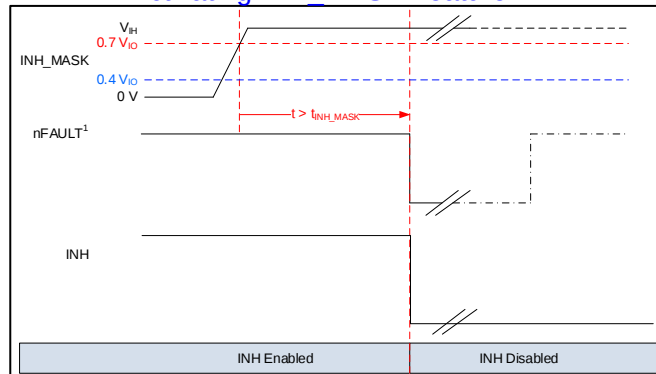


TCAN1043A/1463 Features Explanation

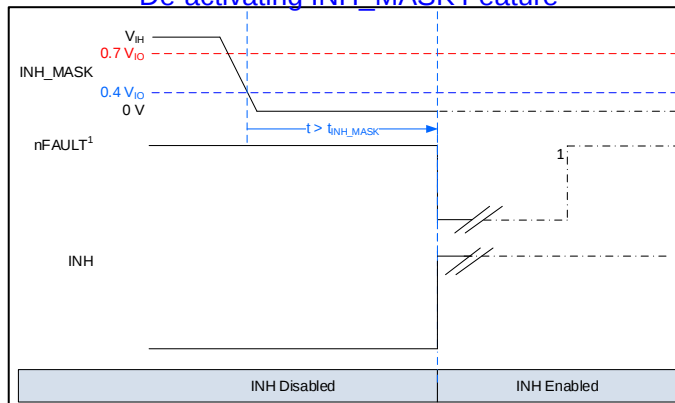
Feature	Details
SWE Timer	SWE (Sleep Wake Error) timer helps save power if the device remains in the Standby mode for $> t_{\text{INACTIVE}}$ (4 mins typ) • UVIO, UVCC 300ms Sleep timer (T_{UV}) is disabled until VIO/VCC are good. Allows for indefinite power up time. • Sleep Wake Error (SWE) timer transitions the device into Sleep mode after 4 minutes (t_{INACTIVE}) if the device is stranded in Standby mode due to • VCC/VIO not powering up properly or • MCU fails to transition the device into Normal mode.
TXDCLP	CAN driver is disabled if TXD=0 when entering CAN Bias Active (TXDCLP).

INH_MASK Feature

Activating INH_MASK Feature



De-activating INH_MASK Feature



¹ nFAULT clears on existing Silent mode.

- INH_MASK pin can be used to enable/disable INH pin functionality
 - To prevent false wake events from activating the power path
- INH_MASK can only be activated/deactivated when in Silent mode
 - Once activated, the INH_MASK remains activated (INH is disabled) through VCC/VIO power cycling and any mode transitions
 - INH_MASK is deactivated due to:
 - UVSUP event
 - User deactivating INH_MASK by taking the device to Silent mode and switching the INH_MASK pin Low
 - When INH_MASK is active, wake events do not enable INH pin (INH pin remains floating/weakly biased to GND)