

NXP Automotive networking solutions

		FlexRay		High Speed CAN							Fault Tolerant CAN			LIN	
		TJA1080	TJA1080A	PCA82C250 (PCA82C251)	TJA1050	TJA1051	TJA1040	TJA1042	TJA1041(A)	TJA1043	TJA1053	TJA1054 (TJA1054A)	TJA1055	TJA1020	TJA1021
Status		production	development	production	production	development	production	development	production	development	production	production	production	production	production
Physical layer compliance			FlexRay V2.1 Rev. A	ISO 11898-2	ISO 11898-2	ISO11898-2	ISO 11898-2	ISO11898-2	ISO 11898-2	ISO11898-2	ISO 11898-3	ISO 11898-3	ISO 11898-3	LIN1.3/J2602	LIN2.0/J2602
Bitrate	kbaud	10000	10000	1000	1000	1000	1000	1000	1000	1000	125	125	125	10/20	10/20
Modes of operation		Normal, Standby, Sleep	Normal, Standby, Sleep	Normal, Standby	Normal, Listen only	Normal, Listen only, Off	Normal, Standby	Normal, Listen only, Standby	Normal, Listen only, Standby, Sleep	Normal, Listen only, Standby, Sleep	Normal, Standby, Sleep	Normal, Standby, Sleep	Normal, Standby, Sleep	Normal Slope, Low Slope, Standby, Sleep	Normal, Standby, Sleep
Package (Leadfree)		SSOP20	SSOP20	SO8, DIP8	SO8, DIP8	SO8, others to be defined	SO8	SO8, others to be defined	SO14	SO14, others to be defined	SO14	SO14	SO14	SO8	SO8, HVSON8* * planned
Supply															
Vbat	V	6.5 ... +60	6.5 ... +60						5.0...27	5.0...40	6.0...27	5.0...27	5.0...40	5 ...27	5.5 ...27
Vcc	V	4.75...5.25	4.75...5.25	4.5...5.5	4.5...5.5	4.5...5.5	4.75...5.25	4.5...5.5	4.75...5.25	4.5...5.5	4.75...5.25	4.75...5.25	4.75...5.25		
Standby/Sleep current	uA	50	50	170/-	-/-	-/-	15/-	15/-	30/30	15/15	65	30	25	3	7
Bus input range	V	-60 ... +60	-60 ... +60	-8...+18 (-36...+36)	-27...+40	-58...+58	-27...+40	-58...+58	-27...+40	-58...+58	-10...+27	-10...+27	-58...+58	-27 ... +40	-40 ... +40
ESD															
HBM	kV	± 8	± 8	± 2	± 4	± 8	± 6	± 8	± 6	± 8	± 6	± 2 (±4)	± 8	± 4	± 8
IEC61000-4-2	kV					± 8		± 8		± 8			± 6		± 6
MCU interface level	V	2.8...5.25	2.8...5.25	5	3.3...5V (RxD: 5V)	3...5V	3.3...5V (RxD: 5V)	3...5V	2.8...5.25	3...5V	5	5	5V and 3...3.3V	3.3...5V	3.3...5V
Temperature range	Degr. C	-40...150 (Tvj)	-40...150 (Tvj)	-40...150 (Tvj)	-40...150 (Tvj)	-40...150 (Tvj)	-40...150 (Tvj)	-40...150 (Tvj)	-40...150 (Tvj)	-40...150 (Tvj)	-40...125 (Tamb)	-40...125 (Tamb)	-40...125 (Tamb)	-40...150 (Tvj)	-40...150 (Tvj)
Additional functionality															
		Can be used for Linear passive bus topologies as well as star topologies	Can be used for Linear passive bus topologies as well as star topologies	slope control PCA82C251 for truck applications	TxD dominant time out monitor	Backwards compatible to TJA1050 Different versions to offer increased functionality Improved behaviour in networks with long stubs Suitable for 24V applications	TxD dominant time out monitor Split pin	Backwards compatible to TJA1040 Different versions to offer increased functionality Improved behaviour in networks with long stubs Suitable for 24V applications	TxD dominant time out monitor Split pin System fault diagnosis Wake-up robustness (TJA1041A)	Backwards compatible to TJA1041(A) Different versions to offer increased functionality Improved behaviour in networks with long stubs Suitable for 24V applications	TxD dominant time out monitor	TxD dominant time out monitor System fault diagnosis TJA1054A is ESD improved version of TJA1054	TxD dominant time out monitor System fault diagnosis	Supports K-line like functions Wake-up source recognition Integrated termination resistor for LIN slave applications Low slope mode	Supports K-line like functions Wake-up source recognition Integrated termination resistor for LIN slave applications Low slope version in separate product
Certificates															
Conformance			FlexRay V2.1 Rev. A		ISO 11898-2	Planned	ISO 11898-2	Planned	ISO 11898-2	Planned		golden reference	ISO 11898-3	LIN1.3	LIN2.0/J2602
Material															
Datasheet		12-Jul-07	On request	13-Jan-00	22-Oct-03	Concept preview	14-Oct-03	Concept preview	20-Feb-04	Concept preview	18-Dec-00	20-Nov-01	13-Mar-07	13-Jan-04	16-Oct-06
Application Note		On request	On request	AN96116	AN00020	Planned	AN10211	Planned	AN00094	Planned	AH_FT CAN3	AH_FT CAN3	On request	AN00093	On request
ESD/EMC report		On request	On request	On request	On request	Planned	On request	Planned	On request	Planned	On request	On request	On request	On request	On request

SW-CAN transceiver, AU5790, available in SO8 & SO14 package

For further information contact your local NXP contact or send your request to ivn@nxp.com

For more information: www.nxp.com/ivn



NXP Automotive networking solutions

		Fail-Safe System Basis Chips			
		UJA1065	UJA1061	UJA1069	UJA1066
Description		System on chip including HS-CAN & LIN transceiver, Voltage regulators for microcontroller & CAN, Watchdog and extensive diagnostics & Fail-safe	System on chip including FT-CAN & LIN transceiver, Voltage regulators for microcontroller & CAN, Watchdog and extensive diagnostics & Fail-safe	System on chip including LIN transceiver, Voltage regulators for microcontroller & CAN, Watchdog and extensive diagnostics & Fail-safe	System on chip including HS-CAN transceiver, Voltage regulators for microcontroller & CAN, Watchdog and extensive diagnostics & Fail-safe
Status		production	production	production	development
Physical layer compliance		ISO11898-2/LIN2.x/SAE J2602	ISO11898-3/LIN2.x/SAE J2602	LIN2.x/SAE J2602	ISO11898-2
Bitrate	kbaud	1000 & 20/10	125 & 20/10	20/10	1000
Modes		Normal, Standby, Sleep, Fail-safe, Flash, Development			
Package		HTSSOP32	HTSSOP32	HTSSOP32 & HTSSOP24	HTSSOP32
Supply					
	Vbat	V	5.5...27V		
	Vcc	V	not required		
ESD (bus pins)					
	HBM	kV	± 8	± 8	± 8
	IEC61000-4-2	kV	± 4	± 6	± 4
MCU supply & interface level	V	5, 3.3 or 3.0			
System features		Autonomous Fail-safe system to improve communication reliability & to prevent drained battery in case of ECU malfunction			
		Extensive diagnostics to provide smart information to microcontroller			
		Device identification via SPI to match hardware & software			
		Create Partial Networks to reduce power consumption. Can be implemented in existing CAN networks			
		Separate 5V supply for the CAN bus			
		Wake-port			
		Global Enable signal to enable safety critical hardware			
		External voltage regulator control			
Certificates					
Conformance		FT-CAN: ISO11898-3		HS-CAN: ISO11898-2	LIN2.x/J2602
Material					
Datasheet		16-Nov-06	27-Apr-07	10-Sept-07	On request
Application Note		On request			
ESD/EMC report		On request			

		LIN IO Slave	
		UJA1023	
Description		System on chip including complete LIN I/O Slave with 8 configurable ports. Configuration can be done via the LIN bus. Bitrate is automatically adapted. 8-bit ADC and PWM integrated.	
Status		production	
Physical layer compliance		LIN2.0/J2602	
Bitrate	kbaud	1..20	
Modes		Normal, Standby, Sleep and Limp Home	
Package		SO16	
Supply			
Vbat	V	6.5-27	
Vcc	V	not required	
ESD (bus pins)			
	HBM	kV	±8
	IEC61000-4-2	kV	
System features		Automatic Bitrate detection	
		Limp Home	
		Configurable Sleep Mode	
		Outputs to drive LEDs & PowerFETs	
		Inputs to read upto 16 switches	
		8 bit AD converter to read	
		Wake-port	
Certificates			
Conformance		LIN2.0/J2602	
Material			
Datasheet		5-7-2006	
Application Note		On request	
ESD/EMC		On request	

For further information contact your local NXP contact or send your request to ivn@nxp.com

For more information: www.nxp.com/ivn

www.nxp.com

© 2007 NXP B.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.

Date of release: September 2007
Document order number: 9397 750 16161
Printed in the Netherlands

founded by

PHILIPS