

ON Semiconductor®



SGD529/D
Rev. 0, Oct-2008

Selection. Service. Support.
Power Solutions from ON Semiconductor

Analog, Mixed Signal and Memory Products

Neumüller Elektronik GmbH

Gewerbegebiet Ost 7
D-91085 Weisendorf

Tel: +49 9135 73666-0

info@neumueller.com

Fax: +49 9135 73666-60

www.neumueller.com

*Comprehensive listing of former Catalyst Semiconductor
product lines, now offered by ON Semiconductor.*

LED DRIVERS

(See Applications Matrix on page 14)

High-Power LED Flash Drivers – Super Capacitor Charger plus Flash/Torch Control

Part Number	V _{IN} [V]	Channels	Flash Current Total I _{OUT} (max) [A]	Torch Current Total I _{OUT} (max) [mA]	RSET Control	Pump Modes	Packages (size in mm)
CAT3224	2.5 - 5.5	2	4	400	Yes	1x / 2x	TQFN-16 (3 x 3)

BOLD denotes new device.

Charge Pump / Parallel Configuration – Fractional Charge Pumps with Regulated Output Current

Part Number	V _{IN} [V]	LEDs	Total I _{OUT} (max) [mA]	RSET Control	Dimming Interface	Pump Modes	Packages (size in mm)
CAT3603	2.7 - 5.5	3	90	Yes	PWM	1x / 1.5x	TDFN-12 (3 x 3)
CAT3604	2.7 - 5.5	4	120	Yes	PWM	1x / 1.5x	TQFN-16 (4 x 4)
CAT3606	2.7 - 5.5	6	180	Yes	PWM	1x / 1.5x	TQFN-16 (4 x 4)
CAT3612	2.7 - 5.5	2	300		1-Wire (32 levels)	1x / 1.5x	TDFN-12 (3 x 3)
CAT3614	2.7 - 5.5	4	124		1-Wire (32 levels)	1x / 1.5x	TDFN-12 (3 x 3)
CAT3616	2.7 - 5.5	6	186		1-Wire (32 levels)	1x / 1.5x	TQFN-16 (4 x 4)
CAT3626	2.7 - 5.5	6	192		I ² C	1x / 1.5x	TQFN-16 (4 x 4)
CAT3604V	2.7 - 5.5	4	120	Yes	PWM	1x / 1.33x / 1.5x / 2x	TQFN-16 (4 x 4)
CAT3636	2.2 - 5.5	6	192		1-Wire (32 levels)	1x / 1.33x / 1.5x / 2x	TQFN-16 (3 x 3)
CAT3637	2.2 - 5.5	6	192		1-Wire (16 levels)	1x / 1.33x / 1.5x / 2x	TQFN-16 (3 x 3)
CAT3643	2.2 - 5.5	3	90	Yes	1-Wire (6 levels)	1x / 1.33x / 1.5x / 2x	XQFN-12 (2.5 x 2.5) (0.4 height) TDFN-12 (3 x 3), TQFN-16 (3 x 3)
CAT3644	2.2 - 5.5	4	100	Yes	1-Wire (6 levels)	1x / 1.33x / 1.5x / 2x	TQFN-16 (3 x 3)
CAT3647	2.2 - 5.5	3	100	Yes	1-Wire (32 levels)	1x / 1.33x / 1.5x / 2x	TQFN-16 (3 x 3)
CAT3648	2.2 - 5.5	4	100	Yes	1-Wire (32 levels)	1x / 1.33x / 1.5x / 2x	TQFN-16 (3 x 3)

QUAD-MODE

World's Best Charge Pump Architecture with 10% Higher Efficiency

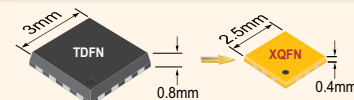
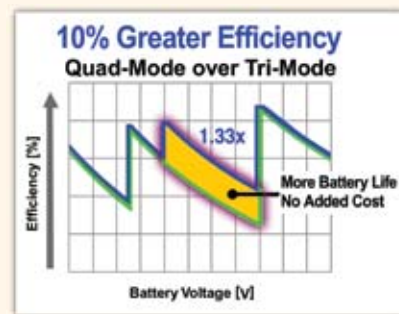
QUAD-MODE

The patented Quad-Mode[®] adaptive fractional charge pumps from ON Semiconductor take LED driver performance to a new level by offering a **10% efficiency improvement** and up to 65% smaller packaging*, **without the need for an additional capacitor and with no price premium.**

The innovative Quad-Mode charge pump architecture delivers the high efficiency levels normally associated with inductor-based LED drivers, while eliminating the associated high-profile inductors and unwanted EMI. Most charge pump LED drivers offer three modes of operation corresponding to the ratio of the output voltage to the input voltage: 1x, 1.5x and 2x. The Quad-Mode architecture adds a fourth mode of operation, 1.33x, without the need for the additional capacitor required by all existing four-mode charge pumps.

Note:

* Compared to 3-mode charge pumps.



Inductive Boost / Series Configuration – Low Noise Step-Up LED Drivers

Part Number	V_{IN} [V]	LEDs	V_{FB} [mV]	I_{SW-LIM} [mA]	V_{OUT} (max) [V]	Dimming Interface	Packages (size in mm)
CAT37	2.0 - 5.5	4	95	350	20	PWM	TSOT23-5
CAT4137	2.0 - 5.5	5	300	350	24	PWM	TSOT23-5
CAT4237	2.0 - 5.5	8	300	450	34	PWM	TSOT23-5
CAT4238	2.0 - 5.5	10	300	450	38	PWM	TSOT23-5
CAT4139	2.0 - 5.5	5	300	850	24	PWM	TSOT23-5
CAT4240	2.0 - 5.5	10	300	850	38	PWM	TSOT23-5
CAT32	2.0 - 5.5	4	95	350	20	PWM	TSOT23-6
CAT4134	2.0 - 5.5	2 x 3		2000	16	PWM	TDFN-12 (3 x 3)

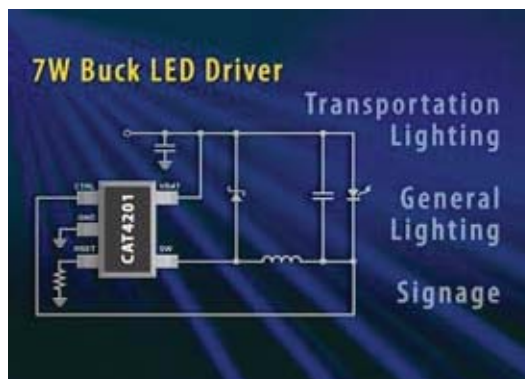
Linear LED Drivers – Serial Interface Display Drivers

Part Number	V_{IN} [V]	LEDs	Total I_{OUT} (max) [mA]	V_{OUT} (max) [V]	Dimming Interface	Packages (size in mm)
CAT310	5.5	10	500	40	PWM	SOIC-20
CAT4004	2.0 - 5.5	4	100		1-Wire	TDFN-8 (2 x 3)
CAT4008	3.0 - 5.5	8	800		4-Wire	SOIC-16, TSSOP-16
CAT4016	3.0 - 5.5	16	1600		4-Wire	QSOP-24, SOIC-24, TQFN-24 (4 x 4), TSSOP-24
CAT4101	3.0 - 5.5 / 25	8	1000		PWM	TO-263-5
CAT4103	3.0 - 5.5 / 25	8 x 3	525		4-Wire	SOIC-16
CAT4104	3.0 - 5.5 / 25	8 x 4	700		PWM	SOIC-8, TQFN-8

Inductive Buck Series Configuration – High-Voltage, Step-Down Converter with Regulated Current Control

Part Number	V_{IN} [V]	LEDs	Total I_{OUT} (max) [mA]	Dimming Interface	R_{SET} Control	Package
CAT4201	7 - 36	7	350	PWM	Yes	TSOT23-5

BOLD denotes new device.



DC-DC CONVERTERS

(See Applications Matrix on page 15)

Charge Pumps Boost

Part Number	V _{IN} [V]	Frequency (typ) [MHz]	Total I _{OUT} (max) [mA]	R _{OUT} (typical) [Ω]	Pump Modes	V _{OUT} (max) [V]	Packages
CAT3200	2.7 - 4.5	2	100	10	2x	6 (adjustable)	MSOP-8
CAT3200-5	2.7 - 4.5	2	100	10	2x	5 (fixed)	TSOT23-6
CAT660	1.5 - 5.5	0.080	100	4	+2x, -1x	11	PDIP-8, SOIC-8
CAT661	1.5 - 5.5	0.135	100	4	+2x, -1x	11	PDIP-8, SOIC-8

LINEAR VOLTAGE REGULATORS

(See Applications Matrix on page 15)

Shunt Regulator

Part Number	Type	Reference Voltage [V]	V _{IN} [V]	I _{OUT}	V _{OUT}	Initial Accuracy	Package
CAT102	Shunt	0.6	2.2 to 18	>20μA	0.3V	±1%	TSOT23-5

Low Dropout Regulators

Part Number	No. of Outputs	Type	I _{OUT} [mA]	V _{OUT} ² [V]	V _{IN} [V]	V _{DROPOUT} [mV]	Packages (size in mm)
CAT6217	1	LDO	150	1.5, 1.8, 2.5, 2.8, 2.85, 3.3	2.3 to 5.5	150	TSOT23-5
CAT6218	1	LDO	300	1.5, 1.8, 2.4, 2.5, 2.7, 2.8, 2.85, 3.0, 3.2, 3.3	2.3 to 5.5	300	TSOT23-5
CAT6219	1	LDO	500	1.8, 2.85, 3.3, Adjustable	2.3 to 5.5	500	TSOT23-5, TDFN-6
CAT6221	2	LDO	300, 300	1.5, 1.8, 2.5, 2.7, 2.8, 3.0, 3.3	2.3 to 5.5	300	TSOT23-6 (0.8 height)

1. Operating temperature range of -40°C to +85°C with junction temperatures from -40°C to +105°C.
2. Contact Factory for additional voltage options.

TEMPERATURE SENSORS

(See Applications Matrix on page 15)

Temperature Sensor with EEPROM

Part Number	Output	Interface	EEPROM	Accuracy [°C]		Operating Voltage [V]	Temperature Range [°C]	Packages
				Narrow	Full			
CAT34TS02	Digital	I ² C / SMBus	2Kb	±1	±3	3.0 - 3.6	-20 to +125	TDFN-8, UDFN-8

Temperature Sensors

Part Number	Output	Interface	Accuracy [°C]		Operating Voltage [V]	Temperature Range [°C]	Packages
			Narrow	Full			
CAT6095	Digital	I ² C / SMBus	±1	±3	3.0 - 5.0	-20 to +125	TDFN-8, UDFN-8

BOLD denotes new device.

BUS PRODUCTS

(See Applications Matrix on page 17)

Bus Products							
Part Number	I/Os	Cascadable	Operating Voltage [V]	$\overline{\text{INT}}$	Internal I/O Pullups	LED Blink / PWM	Packages (size in mm)
CAT9534	8 GPIO	8 Slave ID Addresses	2.3 to 5.5	✓			SOIC-16 ¹ , TSSOP-16, TQFN-16 (4 x 4)
CAT9554	8 GPIO	8 Slave ID Addresses	2.3 to 5.5	✓	✓		SOIC-16 ¹ , TSSOP-16, TQFN-16 (4 x 4)
CAT9554A	8 GPIO	8 Slave ID Addresses	2.3 to 5.5	✓	✓		SOIC-16 ¹ , TSSOP-16, TQFN-16 (4 x 4)
CAT9532	16 LED outputs	8 Slave ID Addresses	2.3 to 5.5			✓	SOIC-24, TSSOP-24, TQFN-24 (4 x 4)
CAT9552	16 LED outputs	8 Slave ID Addresses	2.3 to 5.5			✓	SOIC-24, TSSOP-24, TQFN-24 (4 x 4)
CAT9555	16 GPIO	8 Slave ID Addresses	2.3 to 5.5	✓	✓		SOIC-24, TSSOP-24, TQFN-24 (4 x 4)

Note:

1. 300mil wide.

VOLTAGE SUPERVISORS

(See Applications Matrix on page 15)

Voltage Supervisors with EEPROM Memory											
Part Number	Memory Interface	Density	Reset		Typical Reset Width	Write Protect	Manual Reset	Watchdog Timer Input	Threshold Voltage	Supply Current [μA]	Packages (size in mm)
			Low	High							
CAT1021	I ² C	2 Kbits	✓	✓	200ms	✓	✓	SDA		60	PDIP-8, MSOP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 3)
CAT1022	I ² C	2 Kbits	✓		200ms		✓	SDA		60	PDIP-8, MSOP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 3)
CAT1023	I ² C	2 Kbits	✓	✓	200ms		✓	WDI		60	PDIP-8, MSOP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 3)
CAT1024	I ² C	2 Kbits	✓		200ms		✓			40	PDIP-8, MSOP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 3)
CAT1025	I ² C	2 Kbits	✓	✓	200ms	✓	✓			40	PDIP-8, MSOP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 3)
CAT1026	I ² C	2 Kbits	✓	✓	200ms		✓ ¹		✓	50	PDIP-8, MSOP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 3)
CAT1027	I ² C	2 Kbits	✓		200ms		✓ ¹	WDI	✓	60	PDIP-8, MSOP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 3)
CAT1161	I ² C	16 Kbits	✓	✓	200ms	✓	✓ ¹	SDA		50	PDIP-8, SOIC-8
CAT1162	I ² C	16 Kbits	✓	✓	200ms	✓	✓ ¹			50	PDIP-8, SOIC-8
CAT1163	I ² C	16 Kbits	✓	✓	200ms	✓	✓ ¹	WDI		50	PDIP-8, SOIC-8
CAT1320	I ² C	32 Kbits	✓		200ms		✓ ¹			40	PDIP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 4.9)
CAT1321	I ² C	32 Kbits		✓	200ms					40	PDIP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 4.9)
CAT1640	I ² C	64 Kbits	✓		200ms		✓ ¹			40	PDIP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 4.9)
CAT1641	I ² C	64 Kbits		✓	200ms					40	PDIP-8, SOIC-8, TSSOP-8, TDFN-8 (3 x 4.9)
CAT130xx	μ-wire	1, 4, 8, 16 Kbits	✓		240ms					25	SOIC-8
CAT140xx	I ² C	2, 4, 8, 16 Kbits	✓		240ms					25	SOIC-8
CAT150xx	SPI	2, 4, 8, 16 Kbits	✓		240ms					25	SOIC-8


Note:

1. RESET pin can be used as an input for Push-Button Manual Reset.

Voltage Supervisors – General Purpose																						
Part Number	Voltage Monitors	Nominal Threshold Voltage [V] ¹											Reset			Manual Reset	Watchdog Timer	Adjustable Threshold Voltage	Supply Current [μA]	Packages		
		4.63	4.38	4	3.2	3.08	2.93	2.88	2.7	2.63	2.55	2.32	2.19	1.68	Low						High	Open Drain
CAT705	2	✓													✓			✓	✓	✓	500	SOIC–8
CAT706	2		✓			T	S			R					✓			✓	✓	✓	500	SOIC–8
CAT803	1	L	M	J		T	S			R		Z			✓		✓				60	SC70–3, SOT23–3
CAT808N ²	1				✓					✓					✓		✓				7	TSOT23–5
CAT809	1	L	M	J		T	S			R		Z			✓						60	SC70–3, SOT23–3
CAT810	1	L	M	J		T	S			R		Z				✓					60	SC70–3, SOT23–3
CAT811	1	L	M	J		T	S			R		Z			✓			✓			15	SOT143–4
CAT812	1	L	M	J		T	S			R		Z				✓		✓			15	SOT143–4
CAT813	2	✓														✓		✓	✓	✓	500	SOIC–8
CAT823	1	L	M			T	S			R		Z	Y		✓			✓	✓		17	TSOT23–5, SC70–5
CAT824	1	L	M			T	S			R		Z	Y		✓	✓			✓		17	TSOT23–5, SC70–5
CAT825	1	L	M			T	S			R		Z	Y		✓	✓		✓			15	TSOT23–5, SC70–5
CAT853	1		M			T	S								✓		✓				15	SOT23–3
CAT859	1		M			T	S								✓						15	SOT23–3
CAT863	1		M			T	S								✓		✓				15	SOT23–3
CAT869	1		M			T	S								✓						15	SOT23–3
CAT882 ³	3	✓				✓	✓					✓		✓	✓	✓	✓	✓		✓	9	MSOP–8, SOIC–8
CAT883	3	✓				✓	✓					✓		✓	✓	✓	✓	✓		✓	9	MSOP–8, SOIC–8
CAT884	4														✓		✓	✓		✓	9	MSOP–8, SOIC–8
CAT885	5	✓				✓	✓					✓		✓	✓	✓	✓	✓		✓	9	MSOP–8, SOIC–8
CAT1232LP	1	✓	✓												✓	✓		✓	✓		50	PDIP–8, MSOP–8, SOIC–8, SOIC–16
CAT1832	1							✓			✓				✓	✓		✓	✓		50	PDIP–8, MSOP–8, SOIC–8

Notes:

1. L, M, T, S, R, Z, Y are voltage designation code letters.
2. Voltage detector (no delay).
3. CAT882: Adjustable overvoltage monitor.

DIGITALLY PROGRAMMABLE POTENTIOMETERS (DPP™)

(See Applications Matrix on page 16)

Digitally Programmable Potentiometers (DPP™)								
Part Number	Number of Pots	Number of Taps	Resistance [kΩ]	Buffered Wiper	Interface	Volatile	Non-Volatile	Packages
CAT5120	1	16	10, 50, 100		UP/DOWN	✓		SOT23-6, SC70-6
CAT5121	1	16	10, 50, 100		UP/DOWN	✓		SOT23-6, SC70-6
CAT5122	1	16	10, 50, 100		UP/DOWN	✓		SOT23-5, SC70-5
CAT5110	1	32	10, 50, 100		UP/DOWN	✓		SOT23-6, SC70-6
CAT5112	1	32	10, 50, 100	✓	UP/DOWN		✓	PDIP-8, SOIC-8, MSOP-8, TSSOP-8
CAT5114	1	32	10, 50, 100		UP/DOWN		✓	PDIP-8, SOIC-8, MSOP-8, TDFN-8, TSSOP-8
CAT5115	1	32	10, 50, 100		UP/DOWN	✓		PDIP-8, SOIC-8, MSOP-8, TSSOP-8
CAT5118	1	32	10, 50, 100		UP/DOWN	✓		SOT23-5, SC70-5
CAT5119	1	32	10, 50, 100		UP/DOWN	✓		SOT23-6, SC70-6
CAT5123	1	32	10, 50, 100		UP/DOWN	✓		SOT23-5
CAT5124	1	32	10, 50, 100		UP/DOWN	✓		SOT23-6
CAT5125	1	32	10, 50, 100		UP/DOWN	✓		SOT23-6
CAT5126	1	32	10, 50, 100		UP/DOWN	One-Time Programmable		MSOP-8, TDFN-8
CAT5127	1	32	10, 50, 100		UP/DOWN		✓	MSOP-8, TDFN-8
CAT5128	1	32	10, 50, 100		UP/DOWN	✓		SOT23-8
CAT5129	1	32	10, 50, 100		UP/DOWN		✓	TSOT23-6
CAT5111	1	100	10, 50, 100	✓	UP/DOWN		✓	PDIP-8, SOIC-8, MSOP-8, TSSOP-8
CAT5113	1	100	1, 10, 50, 100		UP/DOWN		✓	PDIP-8, SOIC-8, MSOP-8, TSSOP-8
CAT5116	1	100	32 (Log Taper)		UP/DOWN		✓	PDIP-8, SOIC-8, MSOP-8, TSSOP-8
CAT5132	1	128	10, 50, 100		I ² C		✓	MSOP-10
CAT5133	1	128	10, 50, 100		UP/DOWN		✓	MSOP-10
CAT521 ¹	1	256	6	✓	Microwire		✓	PDIP-14, SOIC-14
CAT5221	2	64	2.5, 10, 50, 100		I ² C		✓	SOIC-20, TSSOP-20
CAT5411	2	64	2.5, 10, 50, 100		SPI		✓	SOIC-24, TSSOP-24
CAT5419	2	64	2.5, 10, 50, 100		I ² C		✓	SOIC-24, TSSOP-24
CAT522 ¹	2	256	24	✓	Microwire		✓	PDIP-14, SOIC-14
CAT523 ¹	2	256	6	✓	Microwire		✓	PDIP-14, SOIC-14
CAT5261	2	256	50, 100		SPI		✓	SOIC-24, TSSOP-24
CAT5269	2	256	50, 100		I ² C		✓	SOIC-24, TSSOP-24

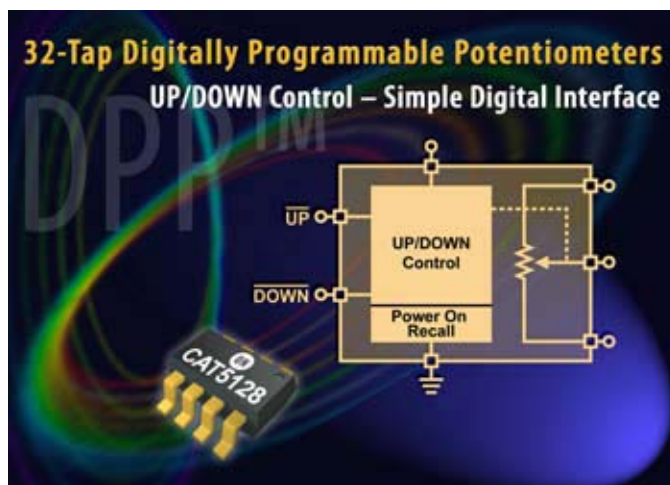
Note:

1. Not recommended for new designs.

Digitally Programmable Potentiometers (DPP™)								
Part Number	Number of Pots	Number of Taps	Resistance [kΩ]	Buffered Wiper	Interface	Volatile	Non-Volatile	Packages
CAT5241	4	64	2.5, 10, 50, 100		I ² C		✓	SOIC-20, TSSOP-20
CAT5401	4	64	2.5, 10, 50, 100		SPI		✓	SOIC-24, TSSOP-24
CAT5409	4	64	2.5, 10, 50, 100		I ² C		✓	SOIC-24, TSSOP-24
CAT524 ¹	4	256	6	✓	Microwire		✓	PDIP-14, SOIC-14
CAT525 ¹	4	256	24	✓	Microwire		✓	PDIP-20, SOIC-20
CAT5251	4	256	50, 100		SPI		✓	SOIC-24, TSSOP-24
CAT5259	4	256	50, 100		I ² C		✓	SOIC-24, TSSOP-24

Note:

1. Not recommended for new designs.

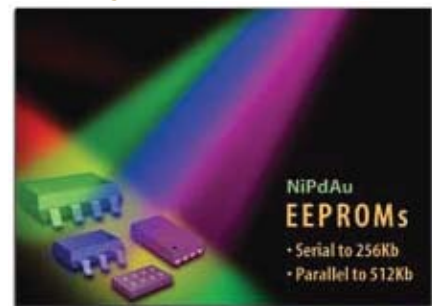


MEMORY PRODUCTS OVERVIEW

(See Applications Matrix on page 17)

Serial EEPROMs		Parallel EEPROMs	Flash	NVRAM
I²C Bus, Full Array Write Protect	SPI Bus with Block Write Protection	CAT28C16A CAT28C17A CAT28C64B CAT28C65B CAT28LV64 CAT28LV65 CAT28C256 CAT28C257 CAT28LV256 CAT28C512 CAT28C513	Boot Block	CAT22C10 CAT24C44
CAT24C01	CAT25010		CAT28F001	
CAT24C02	CAT25020		Bulk Erase	
CAT24C04	CAT25040		CAT28F512	
CAT24C08	CAT25080		CAT28F010	
CAT24C16	CAT25160		CAT28F020	
CAT24C164	CAT25320			
CAT24C32	CAT25640			
CAT24C64	CAT25128			
CAT24C128	CAT25256			
CAT24C256				
I²C Bus, Full Array Write Protect No Address Input Pins	Microwire Bus			
CAT24AA01	CAT93C46			
CAT24AA02	CAT93C46R			
CAT24AA04	CAT93C56			
CAT24AA08	CAT93C57			
CAT24AA16	CAT93C66			
	CAT93C76			
	CAT93C86			
I²C Bus, Partial Array Write Protect				
CAT24C03				
CAT24C05				
Application Specific EEPROM				
CAT34C02				
CAT24C21				
CAT24C208				
Temperature Sensor with On-Chip EEPROM				
CAT34TS02				

Wide Range of EEPROMs, FLASH, NVRAM



BOLD denotes new device.

SERIAL EEPROMs

(See Applications Matrix on page 17)

I ² C Bus Serial EEPROM Family, Full Array Write Protect													
Part Number	Density (Organization)	Address Pins	V _{IN} [V]	Max. Clock Frequency [kHz]	Packages								Temperature Range ²
					PDIP-8	SOIC-8 (JEDEC)	TSSOP-8	TDFN (2 x 3mm)	UDFN (2 x 3mm)	TDFN (3 x 3mm)	TDFN (3 x 4.9mm)	TSOT 23-5	
CAT24C01	1 Kb (128x8)	Yes	1.8 - 5.5	400	L	W	Y	VP2				TD	I, E
CAT24AA01	1 Kb (128x8)	No	1.7 - 5.5	400		W						TD	I
CAT24C02	2 Kb (256x8)	Yes	1.8 - 5.5	400	L	W	Y	VP2				TD	I, E
CAT24AA02	2 Kb (256x8)	No	1.7 - 5.5	400		W						TD	I
CAT24C04	4 Kb (512x8)	Yes	1.8 - 5.5	400	L	W	Y	VP2				TD	I, E
CAT24AA04	4 Kb (512x8)	No	1.7 - 5.5	1000		W						TD	I
CAT24C08	8 Kb (1Kx8)	Yes	1.8 - 5.5	400	L	W	Y	VP2				TD	I, E
CAT24AA08	8 Kb (1Kx8)	No	1.7 - 5.5	1000		W						TD	I
CAT24C16	16 Kb (2Kx8)	No	1.8 - 5.5	400	L	W	Y	VP2				TD	I, E
CAT24AA16	16 Kb (2Kx8)	No	1.7 - 5.5	1000		W						TD	I
CAT24C164	16 Kb (2Kx8)	Yes	1.8 - 5.5	400	L	W	Y	VP2					I, E
CAT24C32	32 Kb (4Kx8)	Yes	1.8 - 5.5	400	L	W	Y	VP2	HU3				I, E
CAT24C64	64 Kb (8Kx8)	Yes	1.8 - 5.5	400	L	W	Y	VP2					I, E
CAT24C128	128 Kb (16Kx8)	Yes	1.8 - 5.5	400	L	W	Y		HU3				I, E
CAT24C256	256 Kb (32Kx8)	Yes	1.8 - 5.5	400	L	W	Y				ZD2		I, E

I ² C Bus Serial EEPROM Family, Partial Array Write Protect													
Part Number	Density (Organization)	V _{IN} [V]	Max. Clock Frequency [kHz]	Packages								Temperature Range ²	
				PDIP-8	SOIC-8 (JEDEC)	TSSOP-8	TDFN (2 x 3mm)	UDFN (2 x 3mm)	TDFN (3 x 3mm)	TDFN (3 x 4.9mm)	TSOT 23-5		
CAT24C03	2 Kb (256x8)	1.8 - 5.5	400	L	W	Y	VP2					TD	I, E
CAT24C05	4 Kb (512x8)	1.8 - 5.5	400	L	W	Y	VP2					TD	I, E

I ² C Bus Application Specific EEPROM													
Part Number	Density (Organization)	V _{IN} [V]	Max. Clock Frequency [kHz]	Packages								Temperature Range ²	
				PDIP-8	SOIC-8 (JEDEC)	TSSOP-8	TDFN (2 x 3mm)	UDFN (2 x 3mm)	TDFN (3 x 3mm)	TDFN (3 x 4.9mm)	TSOT 23-5		
CAT34C02	2 Kb (256x8)	1.7 - 5.5 ¹	400			Y	VP2	HU3					I
CAT24C21	1 Kb (128x8)	2.5 - 5.5	400	L	W	Y				ZD4			I, E
CAT24C208	8 Kb (1Kx8)	2.5 - 5.5	400		W								I

Notes:

- CAT34C02 Reversible Software Write Protect Feature V_{CC} = 1.7V to 3.6V.
- Temperature Range (I = industrial -40°C to +85°C; E = extended -40°C to +125°C).

I²C Bus Temperature Sensor with EEPROM

Part Number	Density (Organization)	V _{IN} [V]	Max. Clock Frequency [kHz]	JEDEC Temp. Class	Packages							Temperature Range ³	
					PDIP-8	SOIC-8 (JEDEC)	TSSOP-8	TDFN (2 x 3mm)	UDFN (2 x 3mm)	TDFN (3 x 3mm)	TDFN (3 x 4.9mm)		TSOT 23-5
CAT34TS02	2 Kb (256x8)	3.0 - 3.6	400	Class B ¹				VP2	HU3				I

SPI Bus Serial EEPROM Family with Block Write Protection

Part Number	Density (Organization)	V _{IN} [V]	Max. Clock Frequency / Min. V _{CC}	Packages							Temperature Range ³	
				PDIP-8	SOIC-8 (JEDEC)	TSSOP-8	TDFN (2 x 3mm)	UDFN (2 x 2mm & 2 x 3mm)	SOIC-8 (EIAJ)	TDFN (3 x 4.9mm)		
CAT25010	1 Kb (128x8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2					I, E
CAT25020	2 Kb (256x8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2					I, E
CAT25040	4 Kb (512x8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2					I, E
CAT25080	8 Kb (1Kx8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2	HU2				I, E
CAT25160	16 Kb (2Kx8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2	HU2				I, E
CAT25320	32 Kb (4Kx8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2	HU3				I, E
CAT25640	64 Kb (8Kx8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2	HU3				I, E
CAT25128	128 Kb (16Kx8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y	VP2		X			I, E
CAT25256	256 Kb (32Kx8)	1.8 - 5.5	10MHz/2.5V, 5MHz/1.8V	L	V	Y			X	ZD2		I, E

Microwire Bus Serial EEPROM Family

Part Number	Density (Organization)	V _{IN} [V]	Max. Clock Frequency	Packages						Temperature Range ³
				PDIP-8	SOIC-8 (JEDEC)	SOIC-8 (EIAJ)	TSSOP-8	TDFN (2 x 3mm)	TDFN (3 x 3mm)	
CAT93C46	1 Kb (64x16/128x8)	1.8 - 5.5	2MHz	L	V / W ²	X	Y	VP2		I, E
CAT93C46R	1 Kb (64x16/128x8)	1.8 - 5.5	2MHz	L	V / W ²	X	Y	VP2		I, E
CAT93C56	2 Kb (128x16/256x8)	1.8 - 5.5	2MHz	L	V / W ²	X	Y	VP2		I, E
CAT93C57	2 Kb (128x16/256x8)	1.8 - 5.5	2MHz	L	V / W ²	X	Y	VP2		I, E
CAT93C66	4 Kb (256x16/512x8)	1.8 - 5.5	2MHz	L	V / W ²	X	Y	VP2		I, E
CAT93C76	8 Kb (512x16/1024x8)	1.8 - 5.5	3MHz/2.5V, 1MHz/1.8V	L	V		Y		ZD4	I, E
CAT93C86	16 Kb (1024x16/2048x8)	1.8 - 5.5	3MHz/4.5V, 1MHz/2.5V, 0.5MHz/1.8V	L	V / W ²	X			ZD4	I, E

BOLD denotes new device.

Notes:

- Class B = TSE2002av compliant; ± 0.5°C typical over 75°C to 95°C.
- W = Rotated pinout with V_{CC} on pin 2.
- Temperature Range (I = industrial -40°C to +85°C; E = extended -40°C to +125°C).

PARALLEL EEPROMs

(See Applications Matrix on page 17)

Parallel EEPROMs										
Part Number	Density (Organization)	Access Time (ns)	I_{CC} (Active/Standby)	V_{IN} [V]	Packages (Pin Count)					Temperature Range ¹
					PDIP	SOIC-JEDEC	SOIC-EIAJ	PLCC	TSOP	
CAT28C16A	16 Kb (2Kx8)	90, 120, 200	25mA/100µA	4.5 - 5.5	L (24)	W (24)	X (24)	G (32)		C, I, A
CAT28C17A	16 Kb (2Kx8)	90, 120, 200	25mA/100µA	4.5 - 5.5	L (28)	W (28)	X (28)	G (32)		C, I, A
CAT28C64B	64 Kb (8Kx8)	90, 120, 150	25mA/100µA	4.5 - 5.5	L (28)	W (28)	X (28)	G (32)	H13 (28)	C, I, A
CAT28C65B	64 Kb (8Kx8)	90, 120, 150	25mA/100µA	4.5 - 5.5	L (28)	W (28)	X (28)	G (32)	H13 (28)	C, I, A
CAT28LV64	64 Kb (8Kx8)	150, 200, 250	8mA/100µA	3.0 - 3.6	L (28)	W (28)	X (28)	G (32)	H13 (28)	C, I, A
CAT28LV65	64 Kb (8Kx8)	150, 200, 250	8mA/100µA	3.0 - 3.6	L (28)	W (28)	X (28)	G (32)	H13 (28)	C, I, A
CAT28C256	256 Kb (32Kx8)	120, 150	25mA/150µA	4.5 - 5.5	L (28)			G (32)	H13 (28)	C, I, A
CAT28C257	256 Kb (32Kx8)	120, 150	25mA/150µA	4.5 - 5.5	L (28)			G (32)		C, I, A
CAT28LV256	256 Kb (32Kx8)	200, 250, 300	15mA/150µA	3.0 - 3.6	L (28)			G (32)	H13 (28)	C, I, A
CAT28C512	512 Kb (64Kx8)	120, 150	50mA/500µA	4.5 - 5.5	L (28)			G (32)	H (32)	C, I, A
CAT28C513	512 Kb (64Kx8)	120, 150	50mA/500µA	4.5 - 5.5				G (32)		C, I, A

FLASH

(See Applications Matrix on page 18)

Flash Memories – Boot Block										
Part Number	Density (Organization)	Access Time (ns)	I_{CC} (Active/Standby)	V_{IN} [V]	Packages (Pin Count)				Temperature Range ¹	
					PDIP	PLCC	TSOP	TSOP Reverse		
CAT28F001	1 Mb (128Kx8)	90, 120	30mA/100µA	5 - 12	L (32)	G (32)	H (32)		C, I, A	

Flash Memories – Bulk Erase										
CAT28F512	512 Kb (64Kx8)	90, 120, 150	30mA/100µA	5 - 12	L (32)	G (32)	H (32)	HR (32)	C, I, A	
CAT28F010	1 Mb (128Kx8)	90, 120	30mA/100µA	5 - 12	L (32)	G (32)	H (32)	HR (32)	C, I, A	
CAT28F020	2 Mb (256Kx8)	90, 120	30mA/100µA	5 - 12	L (32)	G (32)	H (32)	HR (32)	C, I, A	

Note:

1. Temperature Range (C = commercial 0°C to +75°C; I = industrial -40°C to +85°C; A = automotive -40°C to +105°C).

NVRAM

(See Applications Matrix on page 18)

NVRAM							
Part Number	Density (Organization)	Access Time (ns)	I_{CC} (Active/Standby)	V_{IN} [V]	Packages (Pin Count)		Temperature Range ¹
					PDIP	SOIC-JEDEC	
CAT22C10	256 b (64x4)	200, 300	40mA/30 μ A	4.5 - 5.5	L (18)	W (16)	C, I, A
CAT24C44	256 b (16x16)	375	3mA/30 μ A	4.5 - 5.5	L (8)	V (8)	C, I, A

Note:

1. Temperature Range (C = commercial 0°C to +75°C; I = industrial -40°C to +85°C; A = automotive -40°C to +105°C).

Selection. Service. Support.

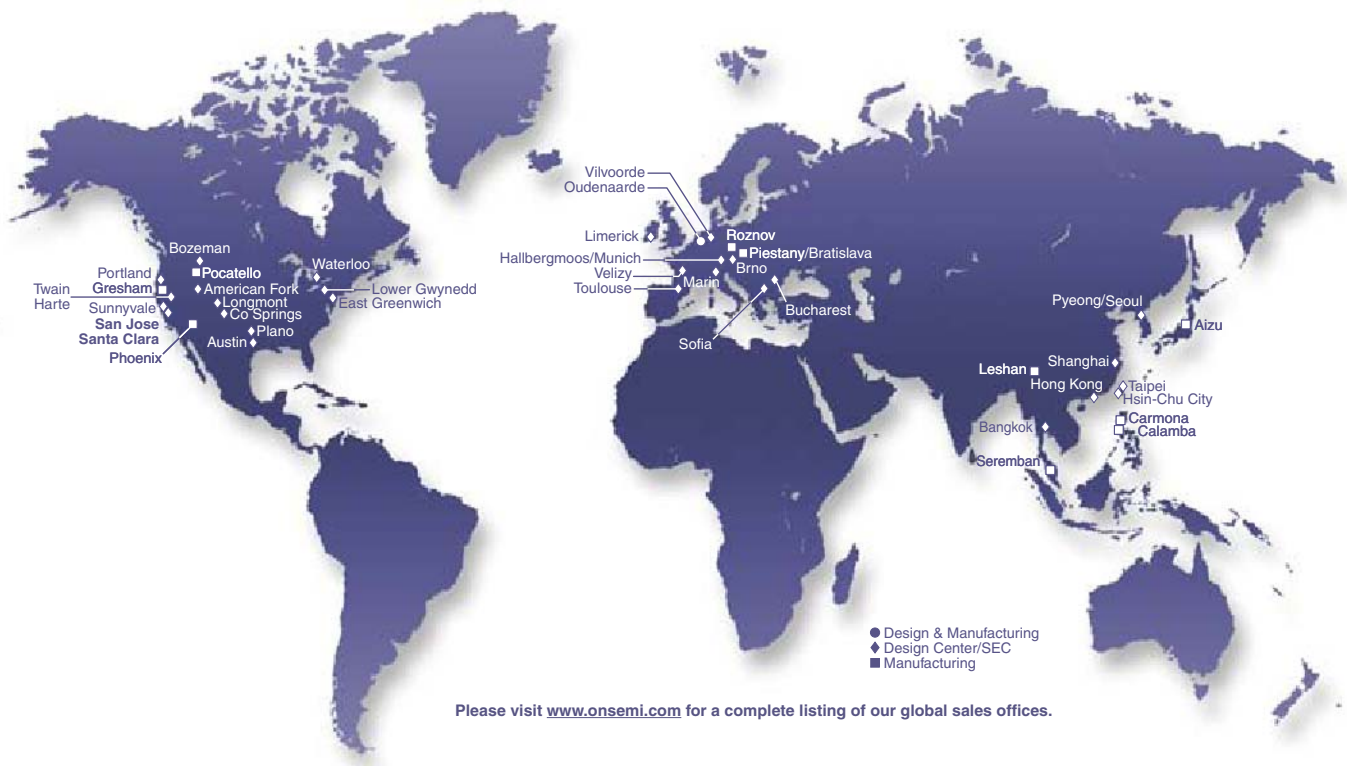
	AUTOMOTIVE/AEROSPACE							COMPUTING & PERIPHERALS							CONSUMER & PORTABLE							INDUSTRIAL & MEDICAL							LED LIGHTING							NETWORKING & TELECOMMUNICATIONS																		
	Audio Video Systems	Body Electronics	Infotainment	Instrument Cluster	Navigation	Powertrain	Satellite Radio	Desktop Computer/Server	Disk Drive	Memory Modules (DDRx)	Graphics Cards	Inkjet Printers	Multi-Function Printers	Monitors	Notebook Computers	Digital Photo Frames	MP3 Players	DVD Players	Cell / Cordless Phones	Digital Still Cameras	Play Station / Game Consoles	Televisions	PDAs	Portable GPS	Barcode Scanners	Blood Analyzers	Clothes Washers	HVAC	Microwave Ovens	Motor Control Systems	Patient Monitors	Electrical Metering	RFID Readers	Security Monitors	Slot Machines	Automotive Interior/CHMSL/Tail Lights	Cell Phone Camera Flash	Garden Lighting	LCD Backlighting	General Lighting	Signage/LED Ballasts	Wireless Modules	Bluetooth	ADSL Modems	Cellular Base Stations	Set Top Boxes	VoIP Handsets							
Digital Potentionmeters																																																						
CAT5110														✓		✓	✓		✓	✓		✓	✓																									✓	✓					
CAT5111														✓		✓	✓		✓	✓		✓	✓																											✓	✓			
CAT5112														✓		✓	✓		✓	✓		✓	✓																											✓	✓			
CAT5113														✓		✓	✓		✓	✓		✓	✓																											✓	✓			
CAT5114														✓		✓	✓		✓	✓		✓	✓																											✓	✓			
CAT5115														✓		✓	✓		✓	✓		✓	✓																												✓	✓		
CAT5116	✓		✓														✓				✓	✓																																
CAT5118														✓		✓	✓		✓	✓		✓	✓																												✓	✓		
CAT5119														✓		✓	✓		✓	✓		✓	✓																												✓	✓		
CAT5120														✓		✓	✓		✓	✓		✓	✓																												✓	✓		
CAT5121														✓		✓	✓		✓	✓		✓	✓																												✓	✓		
CAT5122														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5123														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5124														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5125														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5126														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5127														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5128														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5129														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5132	✓		✓		✓									✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5133														✓		✓	✓		✓	✓		✓	✓																														✓	✓
CAT5211														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5221														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5221														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5231														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5241														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5241														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5251														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5259														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5261	✓						✓							✓		✓	✓		✓	✓		✓	✓																												✓	✓		
CAT5269													✓	✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5401														✓		✓	✓		✓	✓		✓	✓																												✓	✓		
CAT5409														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5411														✓		✓	✓		✓	✓		✓	✓																													✓	✓	
CAT5419														✓		✓	✓		✓	✓		✓	✓																													✓	✓	

About ON Semiconductor

With its global logistics network and strong product portfolio, ON Semiconductor (NASDAQ: ONNN) is a preferred supplier of high performance, energy efficient, silicon solutions to customers in the power supply, automotive, communication, computer, consumer, medical, industrial, mobile phone, and military/aerospace markets. The company's broad portfolio includes power, analog, DSP, mixed-signal, advance logic, clock management and standard component devices. Global corporate headquarters are located in Phoenix, Arizona. The company operates a network of manufacturing facilities, sales offices and design centers in key markets throughout North America, Europe, and the Asia Pacific regions. For more information, visit <http://www.onsemi.com>.

Global Locations

Global corporate headquarters are located in Phoenix, Arizona. The company operates a network of manufacturing facilities, sales offices and design centers in key markets throughout North America, Europe and the Asia Pacific regions.



Worldwide Manufacturing and Development Centers



Sales and Design Assistance from ON Semiconductor

ON Semiconductor Distribution Partners

AMSC Co.	www.amsco.jp	(81) 422 54 6622
Arrow Electronics	www.arrow.com	(800) 777-2776
Avnet	www.em.avnet.com	(800) 332-8638
Digi-Key	www.digikey.com	(800) 344-4539
EBV Elektronik	www.ebv.com/en/locations.html	(49) 8121 774-0
Fuji Electric Co.	www.fujiele.co.jp	(81) 3 3814 1411
Future & FAI Electronics	www.futureelectronics.com/contact	1-800-FUTURE1 (388-8731)
KH Electronics Inc.	www.khelec.com/kor	(82) 42 471 8521
Marubun	www.marubun.co.jp	(81) 3 3639 5630
Mouser Electronics	www.mouser.com	(800) 346-6873
Newark/Farnell	www.farnell.com/onsemi	(800) 4-NEWARK
NU Horizons	www.nuhorizons.com	(800) 275-8488
Promate Electronic Co.	www.promate.com.tw	(886) 2 2659 0303
Segyung Bristestone Co.	www.bristestone.com	(82) 2 3218 1511
Serial Microelectronics, HK	www.serialsys.com.hk	(852) 2790 8220
Tokyo Electron Device Co.	www.teldevice.co.jp	(81) 45 443 4000
World Peace Industries Co.	www.wpi-group.com	(852) 2365 4860
WT Microelectronics Co.	www.wtmec.com	(852) 2950 0820
Yosun Electronics	www.yosun.com.tw	(886) 2 2659 8168

For a comprehensive listing of
ON Semiconductor Sales Offices, please visit:
www.onsemi.com/salesupport

INTERNATIONAL

GREATER CHINA	Beijing	86-10-8518-2323
	Chengdu	86-28-8678-4078
	Hong Kong	852-2689-0088
	Shenzhen	86-755-8209-1128
	Shanghai	86-21-5131-7168
	Taipei, Taiwan	886-2-2377-9911
FRANCE	Paris	33 (0)1 39-26-41-00
GERMANY	Munich	49 (0) 89 30 90 10 10
INDIA	Bangalore	91 80 28 28 28 28
ISRAEL	Tel Aviv	972 3 51 51 51 51
JAPAN	Tokyo	81 3 3 3 3 3 3 3
KOREA	Seoul	82 2 2 2 2 2 2 2
MALAYSIA	Kuala Lumpur	60 3 2 2 2 2 2 2
SINGAPORE	Singapore	65 6 6 6 6 6 6 6
SLOVAKIA	Bratislava	421 33 790 2450
UNITED KINGDOM	Slough	44 (0) 1753 70 1676

Neumüller Elektronik GmbH
Gewerbegebiet Ost 7
D-91085 Weisendorf
Tel: +49 9135 73666-0 info@neumueller.com
Fax: +49 9135 73666-60 www.neumueller.com

AMERICAS REP FIRMS

Alabama	Huntsville	e-Components	(256) 533-2444
Arizona	Tempe	Centaur	(480) 839-2320
Brazil	Countrywide	Phoenix Rep	(+52) 33-3123-9198
California	Bay Area	L2	(408) 433-9388
	Calabasas	Centaur	(818) 878-5800
	Irvine	Centaur	(949) 261-2123
	San Diego	Centaur	(858) 278-4950
	Simi Valley	Centaur	(805) 579-0519
Canada	Eastern Canada	Astec	(905) 607-1444
	Western Canada	Sifore	(503) 977-6267
Connecticut	Statewide	Genesis Associates	(781) 270-9540
Delaware	Statewide	S.J. Mid-Atlantic	(856) 866-1234
Florida	Statewide	e-Components	(888) 468-2444
Georgia	Atlanta	e-Components	(888) 468-2444
Idaho	Eagle	First Source of Idaho, Inc.	(800) 282-9855
Illinois	Hoffman Estates	Stan Clothier	(847) 781-4010
	Palatine	HLC Ltd.	(847) 358-6500
Indiana	Fishers	Bear VAI	(317) 570-0707
Iowa	Cedar Rapids	Essig & Associates	(319) 363-8703
	Cedar Rapids	Stan Clothier	(319) 393-1576
Kansas	Overland Park	Stan Clothier	(913) 894-1675
Maryland	Columbia	Third Wave Solutions	(410) 290-5990
Massachusetts	Burlington	Genesis Associates	(781) 270-9540
Mexico	Countrywide	Phoenix Rep	(+52) 33-3123-9198
Michigan	St. Joseph	Bear VAI	(440) 526-1991
Minnesota	Eden Prairie	Stan Clothier	(952) 944-3456
Missouri	St. Charles	Stan Clothier Company	(636) 916-3777
New Jersey	Mount Laurel	S.J. Mid-Atlantic	(856) 866-1234
	Statewide	S.J. Metro	(516) 942-3232
New York	Binghamton	TriTech - Full Line Rep	(607) 722-3580
	Jericho	S.J. Metro	(516) 942-3232
	Rochester	TriTech - Full Line Rep	(585) 385-6500
	Statewide	S.J. Mid-Atlantic	(856) 866-1234
North Carolina	Raleigh	e-Components	(888) 468-2444
Ohio	Brecksville	Bear VAI Technology	(440) 526-1991
Oregon	Portland	SiFore Technical	(503) 977-6267
Pennsylvania	Statewide	S.J. Mid-Atlantic	(856) 866-1234
Puerto Rico	Countrywide	e-Components	(888) 468-2444
Texas	Austin	West Associates	(512) 343-1199
	Houston	West Associates	(832) 717-3774
	Richardson	West Associates	(972) 680-2800
Washington	Bellevue	SiFore Technical	(425) 990-4701
Wisconsin	Evansville	Stan Clothier	(608) 882-0686
	Statewide	HLC Ltd.	(847) 358-6500

Ag 18

ON Semiconductor and the ON logo are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada.

Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910

Japan Customer Focus Center
Phone: 81-3-5773-3850

ON Semiconductor Website: www.onsemi.com

Order Literature: <http://www.onsemi.com/orderlit>

For additional information, please contact your local
Sales Representative