

Faith

Exploration

Endurance

Enthusiasm



Hangzhou Silan Microelectronics Co., Ltd.

Introduction to Silan

Hangzhou Silan Microelectronics Co., Ltd, founded in 1997, is an IDM mode enterprise engaged in IC design, wafer manufacturing, packaging test and product solutions providing. In Mar. 2003, IPO is initiated with A-stock on Shanghai Stock Exchange to become the first IC Company that is public initiated in China. Now the company has 434.08 million total stock shares with total assets over RMB 3 billion.

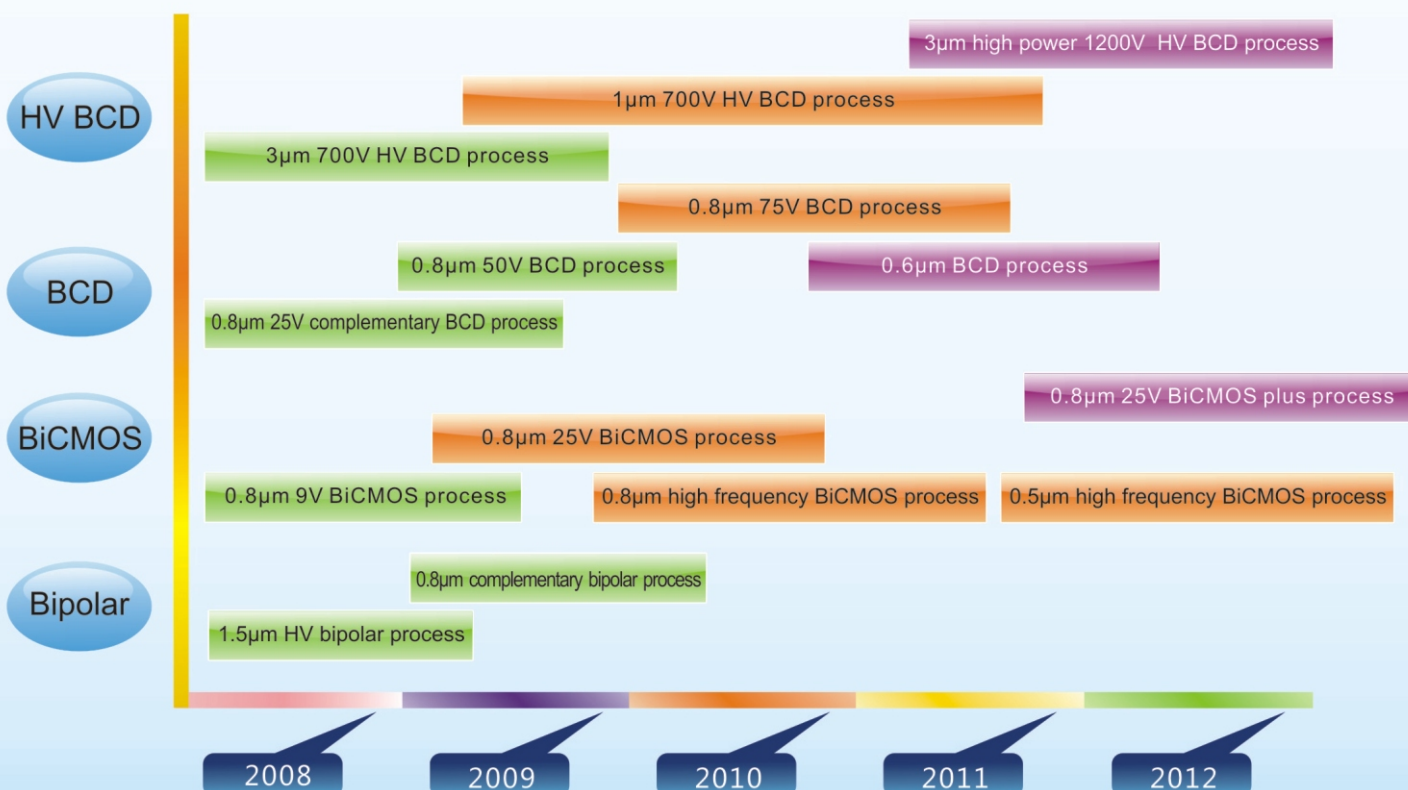


Silan promotes the power management series products based on its own advanced process technology and the powerful production capacity. The power management product line includes:

- ▶ AC-DC converter SMPS
- ▶ LED drivers
- ▶ DC-DC car chargers
- ▶ Power discrete devices



Road Map of Wafer Fab Process



AC-DC Converter SMPS

AC-DC SMPS Solution DEMO

No.	Output	Application	Main control IC	Package	Average efficiency	Standard	Standby power dissipation (230VAC)	EMI margin	Standard	Document No.
1	5V0.7A	Charger	SD6853	DIP8	70%	EPA2.0	65mW	6dB	EN55022 Class B	SAP001
2	5V1A	Charger	SD6854	DIP8	72%	EPA2.0	66mW	6dB	EN55022 Class B	SAP002
3	5V1A	Adapter	SD4840	DIP8	72%	EPA2.0	230mW	6dB	EN55022 Class B	SAP003
4	12V1A	Adapter	SD4843	DIP8	80%	EPA2.0	240mW	6dB	EN55022 Class B	SAP004
5	12V1.5A	Charger	SD4844	DIP8	81%	EPA2.0	300mW	6dB	EN55022 Class B	SAP005
6	3.3V1A+12V0.1A +20V0.1A	DVB	SD6861	DIP8	---	---	---	---	EN55022 Class B	SAP006
7	5V1.5A+12V0.1A +-12V0.1A	DVD	SD6861	DIP8	---	---	---	---	EN55022 Class B	SAP007
8	12V1A	Adapter	SD6863	DIP8	82%	EPA2.0	72mW	6dB	EN55022 Class B	SAP008
9	12V1.5A	Adapter	SD6864	DIP8	84%	EPA2.0	75mW	6dB	EN55022 Class B	SAP009
10	5V1.2A	Adapter	SD6832	DIP8	75%	EPA2.0	70mW	6dB	EN55022 Class B	SAP010
11	12V1A	Adapter	SD6834	DIP8	82%	EPA2.0	75mW	6dB	EN55022 Class B	SAP011
12	5V2.1A	Adapter	SDH6823	DIP8	80%	EPA2.0	65mW	6dB	EN55022 Class B	SAP012
13	12V1.5A	Adapter	SD4870	SOT23-6	83%	EPA2.0	246mW	6dB	EN55022 Class B	SAP013
14	12V3A	Adapter	SD4870	SOT23-6	84%	EPA2.0	254mW	6dB	EN55022 Class B	SAP014
15	12V2A	Adapter	SD4871	SOT23-6	85%	EPA2.0	75mW	6dB	EN55022 Class B	SAP015
16	12V1.5A	Adapter	SD4872	SOP8	84%	EPA2.0	57mW	6dB	EN55022 Class B	SAP016
17	19V3.42A	Adapter	SDH6871	SOP7	88%	EPA2.0	77mW	6dB	EN55022 Class B	SAP017
18	12V3A	Adapter	SDH6871	SOP7	86%	EPA2.0	75mW	6dB	EN55022 Class B	SAP018

Characteristics for PSR Combo ICs

No.	Part No.	Output power	Power MOSFET	Rdson	Feature parameters						Standby power dissipation	Efficiency (Energy Star 5)	Operating frequency	Start-up current	Cable compensation	Peak current compensation	Package
					CV	CC	OLP	OVP (VDD)	OVP(VDD) Mode	OTP auto-recover							
1	SD6853	4W	in MOS	9.8Ω	±5%	±5%	A	24V	A	140	<150mW	Y	100H-200KHz	3uA	Y	Y	DIP8
2	SD6854	6W	in MOS	3.8Ω	±5%	±5%	A	24V	A	140	<150mW	Y	100H-200KHz	3uA	Y	Y	DIP8
3	SD6950	5W	in MOS	9.9Ω	±5%	±5%	A	24V	A	140	<150mW	Y	100H-200KHz	3uA	Y	Y	SOP7
4	SD6954	12W	in MOS	4.0Ω	±5%	±5%	A	24V	A	140	<150mW	Y	100H-200KHz	3uA	Y	Y	DIP7

Characteristics for SSR Combo ICs

No.	Part No.	High voltage start-up	Max. Power (Full voltage/ Adapter)	Rdson	Ipeak	Operating frequency	OVP (VDD)	Frequency jitter	Standby power dissipation	B/O function	Soft start	OTP	OLP/ SCP	Peak current compensation	Package
1	SD4840	N	5W	16.8Ω	0.6	67KHZ	19V	Y	0.30W	N	Y	Y	A	N	DIP8
2	SD4841	N	8W	9.6Ω	0.75	67KHZ	19V	Y	0.30W	N	Y	Y	A	N	DIP8
3	SD4842	N	10W	6Ω	0.9	67KHZ	19V	Y	0.30W	N	Y	Y	A	N	DIP8
4	SD4843	N	12W	4.8Ω	1.2	67KHZ	19V	Y	0.30W	N	Y	Y	A	N	DIP8
5	SD4844	N	14W	3.6Ω	1.5	67KHZ	19V	Y	0.30W	N	Y	Y	A	N	DIP8
6	SD6861	N	8W	9.6Ω	0.75	24-67KHZ	24.5V	Y	0.15W	N	Y	Y	A	Y	DIP8
7	SD6863	N	12W	4Ω	1.2	24-67KHZ	24.5V	Y	0.15W	N	Y	Y	A	Y	DIP8
8	SD6864	N	14W	2.8Ω	1.5	24-67KHZ	24.5V	Y	0.15W	N	Y	Y	A	Y	DIP8
9	SD6865	N	20W	1.1Ω	1.8	24-67KHZ	24.5V	Y	0.15W	N	Y	Y	A	Y	DIP8
10	SD6832	N	5W	8.4Ω	0.75	24-67KHZ	24.5V	Y	0.15W	N	Y	Y	A	Y	DIP8
11	SD6834	N	12W	3.4Ω	1.2	24-67KHZ	24.5V	Y	0.15W	N	Y	Y	A	Y	DIP8
12	SDH6821	Y	8W	9.6Ω	0.75	24-100KHZ	28.5V	Y	0.10W	Y	Y	Y	A	Y	DIP8
13	SDH6823	Y	12W	4Ω	1.2	24-100KHZ	28.5V	Y	0.10W	Y	Y	Y	A	Y	DIP8
14	SDH6824	Y	14W	2.8Ω	1.5	24-100KHZ	28.5V	Y	0.10W	Y	Y	Y	A	Y	DIP8

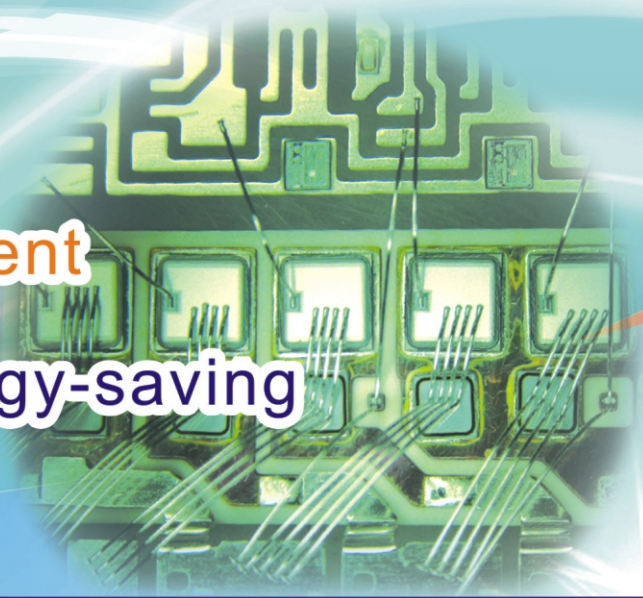
AC-DC Converter SMPS



Green

High-efficient

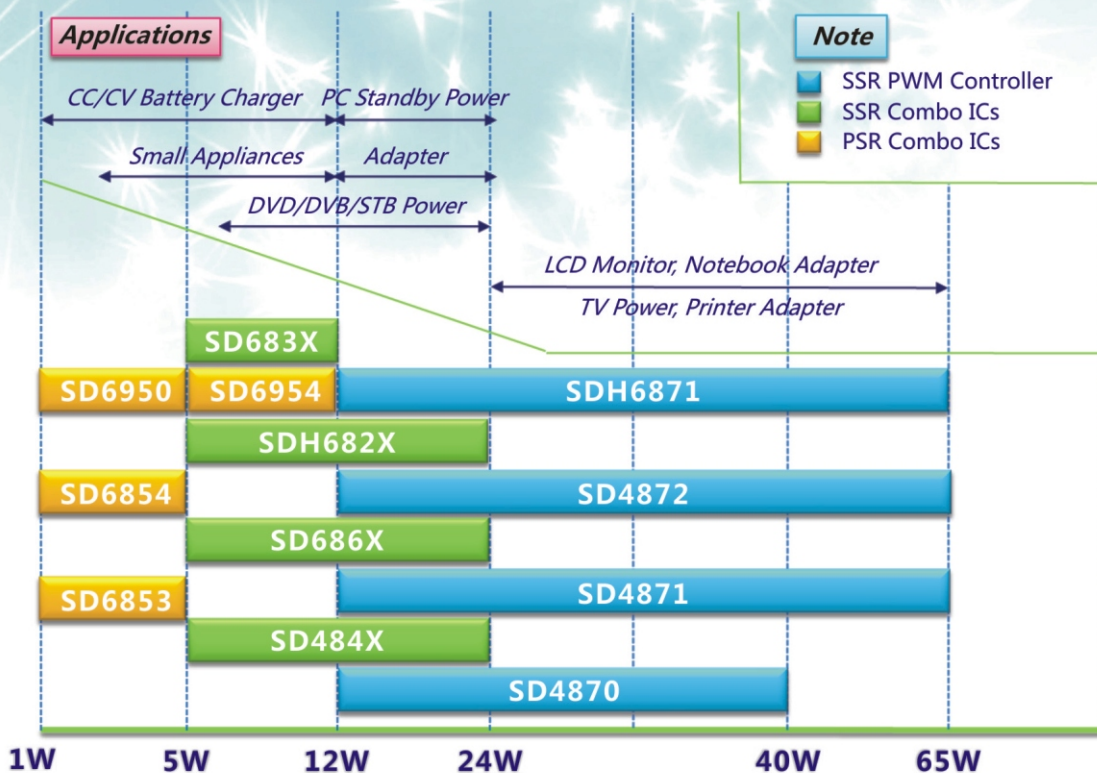
Energy-saving



Characteristics for SSR Combo ICs

No.	Part No.	High voltage start-up	Max. Power (Full voltage/ Adapter)	Operating frequency	OVP (VDD)	Frequency jitter	Standby power dissipation	B/O function	Soft start	OTP	OLP/ SCP	Peak current compensation	Package
1	SD4870	N	36W	Adjustable	28.5V	Y	0.30W	N	N	N	A	N	SOT23-6
2	SD4871	N	65W	Adjustable	28.5V	Y	0.20W	N	Y	N	A	N	SOT23-6
3	SD4872	N	65W	22-67KHz	27V	Y	0.20W	Y	Y	Y	A	Y	SOP8
4	SDH6871	Y	65W	67/132KHz	24.5V	Y	0.10W	Y	Y	Y	A	Y	SOP7

AC-DC SWPS ICs & Power Selection



LED Lighting Driver Solution DEMO

No.	Output power	Input voltage	LED qty.	Output voltage and output current	Efficiency	Power factor	Whether isolated	Light type	Main control IC	Package	Document No.
1	3W	12VDC/AC	3 × 1W	10V350mA	95%	---	---	MR16 spotlight	SD42522	SOP8	SLP001
2	3W	12VDC/AC	3 × 1W	10V350mA	95%	---	---	MR16 spotlight	SD42525E/K	SOT89/SOT23	SLP002
3	5W	12VDC/AC	5 × 1W	18V350mA	75%	---	---	MR16 spotlight	SD42560E ¹	ESOP8	SLP003
4	8W	12VDC/AC	8 × 1W	28V350mA	93%	---	---	AR111 spotlight	SD42560E ²	ESOP8	SLP004
5	6W	24VDC/AC	6 × 1W	21V350mA	90%	---	---	LED wall washer light	SD42524	SOP8	SLP005
6	30W	48VDC	12 × 3W	42V700mA	96%	---	---	LED panel light	SD42527E	ESOP8	SLP006
7	3W	85–265VAC	3 × 1W	10V350mA	78%	---	Isolated	GU10 spotlight	SD6855	SOT23–6	SLP007
8	3W	85–265VAC	3 × 1W	10V350mA	78%	---	Isolated	GU10 spotlight	SD6955	SOP7	SLP008
9	7W	85–265VAC	7 × 1W	23V350mA	82%	---	Isolated	LED bulb light	SD6856	SOT23–6	SLP009
10	7W	85–265VAC	7 × 1W	22V330mA	85%	0.95	Isolated	LED bulb light	SD6857	SOP8	SLP010
11	18W	85–265VAC	12S24P	36V470mA	87%	0.95	Isolated	T8 daylight lamp	SD6857	SOP8	SLP011
12	9W	110/220VAC	9 × 1W	30V330mA	85%	0.95	Isolated	LED bulb light	SD6858	SOP8	SLP012
13	12W	85–265VAC	12S16P	36V320mA	88%	0.95	Isolated	T8 daylight lamp	SA7527S	SOP8	SLP013
14	18W	85–265VAC	12S24P	36V470mA	88%	0.95	Isolated	T8 daylight lamp	SD7529	SOP8	SLP014
15	55W	85–265VAC	12S5P	36V1.5A	91%	0.95	Isolated	Ceiling lamp	SD7530	SOP8	SLP015

Note1: The IC is working in buck–boost mode;

Note2: The IC is working in boost mode.

Characteristics for LED Driving ICs (DC)

No.	Part No.	Output power ¹	Input voltage	Topology	Output current	Current accuracy	Number of LEDs	Max. Efficiency	Whether dimming	Package
1	SD42522	18W	6–36V	Buck	1A	± 1.5%	10	96%	---	SOP8
2	SD42524	18W	6–36V	Buck	1A	± 1.5%	10	96%	Linear/PWM	SOP8
3	SD42525	12W	6–32V	Buck	1A	± 3.0%	6	95%	---	SOT89/SOT23
4	SD42560	5W	Vi+Vo < 36V	Buck–Boost	0.35A	± 3.0%	5	75%	PWM	ESOP8
		12W	6–36V	Boost	0.45A	± 3.0%	9	93%	PWM	ESOP8
5	SD42527	36W	6–60V	Buck	1A	± 3.0%	15	96%	Linear/PWM	ESOP8

Note 1: Under the condition that is allowed by heatsink of the IC;

Characteristics for LED Driving ICs (AC)

No.	Part No.	Output power	Input voltage	Topology	Power MOSFET	Current accuracy	Power factor	Max. Efficiency	Whether dimming	Package
1	SD6855	3W	85–265V	PSR	EX BJT	± 3.5%	---	78%	---	SOT23–6
2	SD6955	3W	85–265V	PSR	IN BJT	± 3.5%	---	78%	---	SOP–7
3	SD6856	7W	85–265V	PSR	EX MOS	± 3.5%	---	82%	---	SOT23–6
4	SD6857	20W	85–265V	PSR+PFC	EX MOS	± 4.0%	0.95	87%	---	SOP8
5	SD6858	20W	85–265V	PSR+PFC	EX MOS	± 4.0%	0.95	82%	SCR	SOP8
6	SA7527	36W	85–265V	PFC flyback	EX MOS	---	0.95	88%	---	SOP8/DIP8
7	SD7529 ¹	30W	85–265V	PFC flyback	EX MOS	---	0.95	88%	---	SOP8
8	SD7530	55W	85–265V	PFC flyback	EX MOS	---	0.95	91%	---	SOP8

Note 1: SD7529 is single–stage PFC with enhanced LED short protection;





LED Lighting Driver ICs Selection

LED road lamp LED stage light LED wall washer light		SD42524	SD42527	SA7527/SD7529 SD7530
T5/T8 daylight lamp LED ceiling lamp LED downlight	SD6855	SD6858 SD6857 SD6856	SD6858 SD6857 SA7527/SD7529	SD6857/SD6858 SA7527/SD7529 SD7530
LED PAR light LED bulk light E27/GU10 spotlight	SD6855 SD6955	SD6858 SD6857 SD6856	SD6858 SD6857	
Solar LED light AR111 spotlight MR16 spotlight	SD42560 SD42525 SD42522	SD42560	SD42560	
Application Model Power	1-5W	5-7W	7-15W	15-55W

High Voltage MOS for LED Lighting Power Supply

No.	Part No.	Package (X) ¹	No.	Part No.	Package (X)	No.	Part No.	Package (X)	No.	Part No.	Package (X)
1	SVD1N60X	M/T/B/D	7	SVD10N60X	F/T	13	SVD10N65X	F/T	19	SVD13N50X	F/T
2	SVD2N60X	M/F/T/D	8	SVD12N60X	F/T	14	SVD12N65X	F/T	20	SVD15NE50X	PN
3	SVD4N60X	F/T/D	9	SVD2N65X	F/T	15	SVD2N70X	M/F/T	21	SVD730X	F/T/D
4	SVD5N60X	F/T	10	SVD4N65X	M/F/T	16	SVD1N80X	B/M/F/T	22	SVD740X	F/T
5	SVD7N60X	F/T	11	SVD7N65AX	F/T	17	SVD3N80X	F/T	23	SVD830X	F/T/D
6	SVD8N60X	F/T	12	SVD8N65X	F/T	18	SVD2NE45X	F	24	SVD840X	F/T

Note1: Package: F: TO-220F-3L; T: TO-220-3L; D: TO-252-2L; M: TO-251-3L; B: TO-92-3L; PN: TO-3PN; N: TO-126-3L; S: TO-263-2L;

High-end Car Charger Solution DEMO

No.	Output	Application	Main control IC	Package	Average efficiency	Short protection	OVP	Cable compensation	Document No.
1	5V1A	Car charger	SD45215	SOP8	90%	Y	Y	Y	SCP001
2	5V2.1A	Car charger	SD45216	ESOP8	90%	Y	Y	Y	SCP002

Characteristics for DC-DC Car Charger ICs

No.	Part No.	Power MOSFET	Topology	Input voltage	Output voltage	Max. Current	Efficiency	Frequency	Short protection	OVP	Cable compensation	Package
1	SD45215	in MOS	Buck	8-36V	5V	1.5A	90%	120KHz	Y	Y	Y	SOP8
2	SD45216	in MOS	Buck	8-40V	5V	2.1A	90%	120KHz	Y	Y	Y	ESOP8

Power Discrete Devices

Power Discrete Devices

HV MOSFETs SVD

HV MOSFETs SVF

SBD

FRD

No.	Part No.	Package (X) ¹	No.	Part No.	Package (X)	No.	Part No.	Package (X)	No.	Part No.	Package (X)
1	SVD1N60X	M/T/B/D	7	SVD10N60X	F/T	13	SVD10N65X	F/T	19	SVD13N50X	F/T
2	SVD2N60X	M/F/T/D	8	SVD12N60X	F/T	14	SVD12N65X	F/T	20	SVD15NE50X	PN
3	SVD4N60X	F/T/D	9	SVD2N65X	F/T	15	SVD2N70X	M/F/T	21	SVD730X	F/T/D
4	SVD5N60X	F/T	10	SVD4N65X	M/F/T	16	SVD1N80X	B/M/F/T	22	SVD740X	F/T
5	SVD7N60X	F/T	11	SVD7N65AX	F/T	17	SVD3N80X	F/T	23	SVD830X	F/T/D
6	SVD8N60X	F/T	12	SVD8N65X	F/T	18	SVD2NE45X	F	24	SVD840X	F/T

HV MOSFETs SVD

HV MOSFETs SVF

SBD

FRD

No.	Part No.	Package (X) ¹	No.	Part No.	Package (X)	No.	Part No.	Package (X)	No.	Part No.	Package (X)
1	SVF1N60X	M/B/D/N/F	11	SVF12N60X	F/T/S	21	SVF1N70X	M/B	31	SVF9NE80	XF
2	SVF2N60X	M/F/T/D/N	12	SVF13N60X	F	22	SVF2N70X	M/F/D	32	SVF13N50X	F/T/PN
3	SVF2NE60X	M	13	SVF20NE60X	PN	23	SVF4N70X	F	33	SVF14NE50X	F
4	SVF3N60X	F	14	SVF2N65X	F	24	SVF8N70X	F	34	SVF16N50X	F/PN
5	SVF4N60X	F/T/D/M	15	SVF3N65X	F	25	SVF2N80X	D	35	SVF18N50X	F/PN
6	SVF5N60X	F/T/D/M	16	SVF4N65X	M/F/T/D	26	SVF3N80X	D/F/M	36	SVF20NE50X	PN
7	SVF6N60X	F/D/M	17	SVF7N65AX	F/T	27	SVF4N80X	F/D	37	SVF14NE50X	F
8	SVF7N60X	F/T/M/S	18	SVF8N65X	F/T	28	SVF6NE80X	F	38	SVF830X	F/T/D
9	SVF8N60X	F/T	19	SVF10N65X	F/T	29	SVF7N80X	F/T	39	SVF840X	F/T
10	SVF10N60X	F/T/S	20	SVF12N65X	F/T	30	SVF8N80X	T/F			

HV MOSFETs SVD

HV MOSFETs SVF

SBD

FRD

No.	Part No.	Package (X) ¹	No.	Part No.	Package (X)	No.	Part No.	Package (X)	No.	Part No.	Package (X)
1	SBD20C100X	F/T	4	SBD20C150X	F/T	6	SBD10C45X	F/T	8	SBD20C60X	F/T
2	SBD10C100X	F/T	5	SBD20C40X	F/T	7	SBD20C45X	F/T	9	SBD10C60X	F/T
3	SBD10C150X	F/T									

HV MOSFETs SVD

HV MOSFETs SVF

SBD

FRD

No.	Part No.	Package (X) ¹	No.	Part No.	Package (X)	No.	Part No.	Package (X)	No.	Part No.	Package (X)
1	SFR12S20X	F/T	4	SFR20U20X	PN	7	SFR08S40X	T2	10	SFR20U35X	F2
2	SFR16S20X	F/T	5	SFR08S60X	F2/T2/D	8	SFR10S40X	T2	11	SFR60S30X	PN
3	SFR20S20X	F/T	6	SFR16S40X	F/T	9	SFR10U40X	F2	12	SFR12S60	F2

Note1: Package: F; TO-220F-3L; T; TO-220-3L; D; TO-252-2L; M; TO-251-3L; B; TO-92-3L; PN; TO-3PN; N; TO-126-3L; S; TO-263-2L;

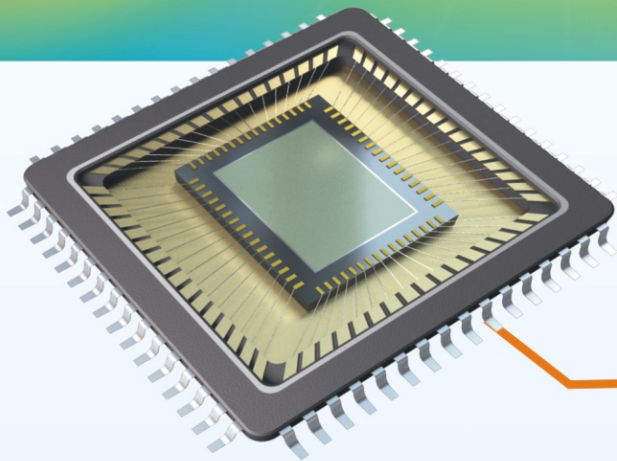
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