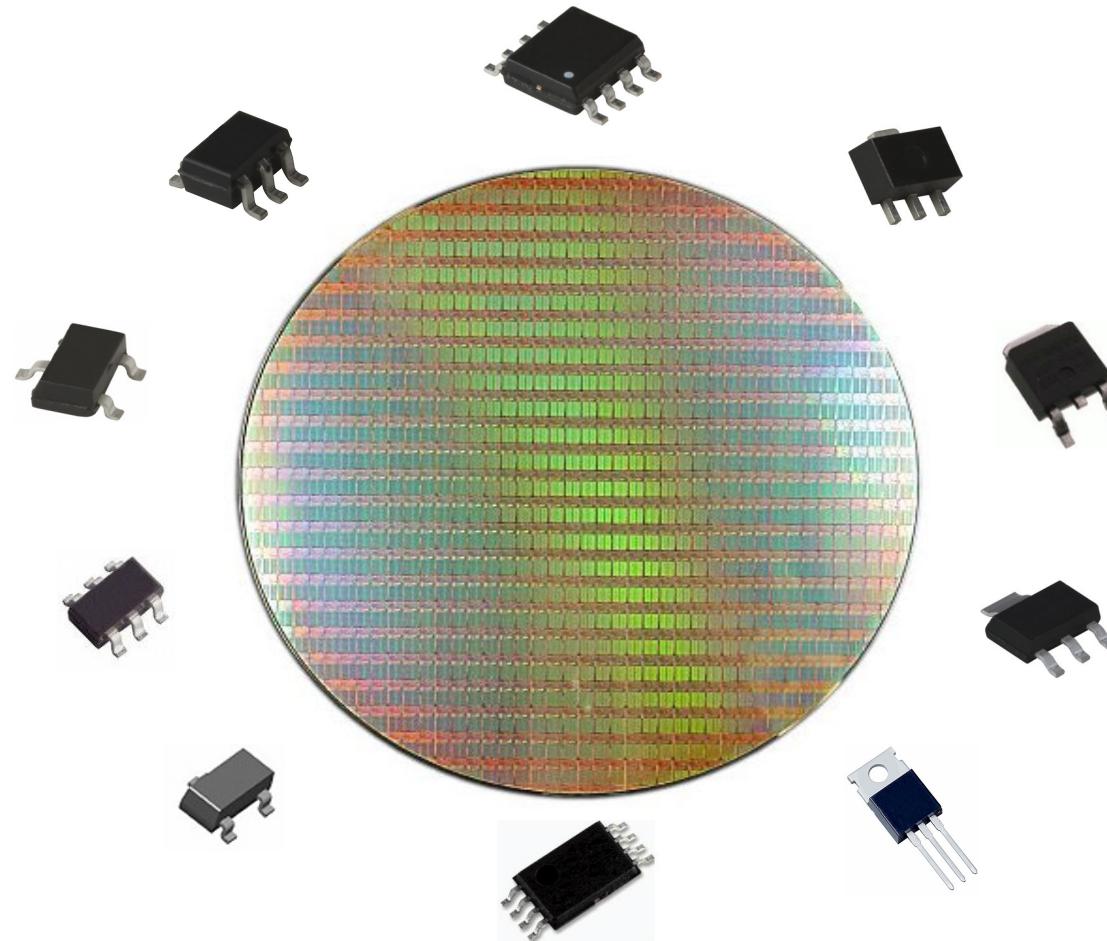




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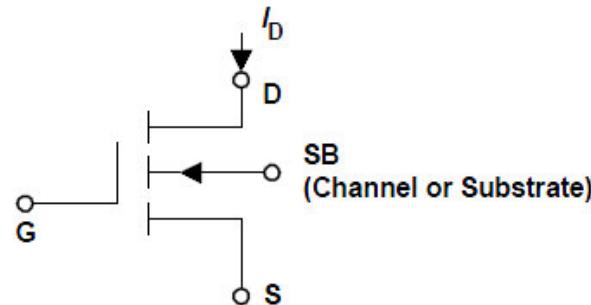
Alfa – MOS POWER MOSFET



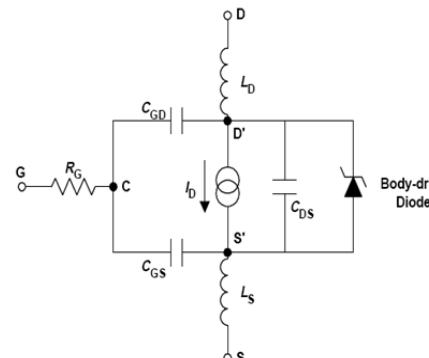


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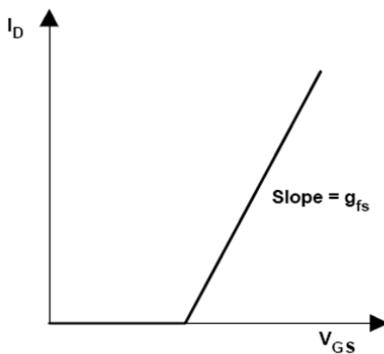
POWER MOSFET Electrical Characteristics



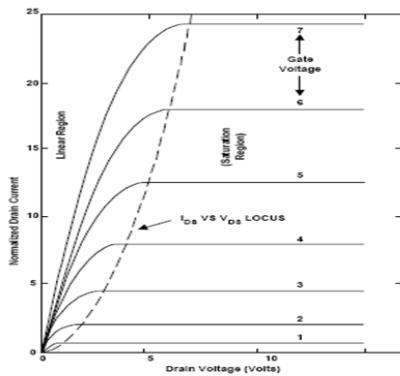
Device Symbol



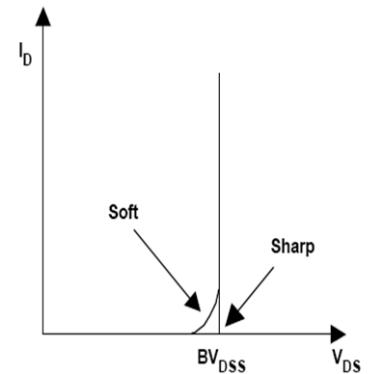
Equivalent Circuit



Transfer characteristics



Current-Voltage Characteristics

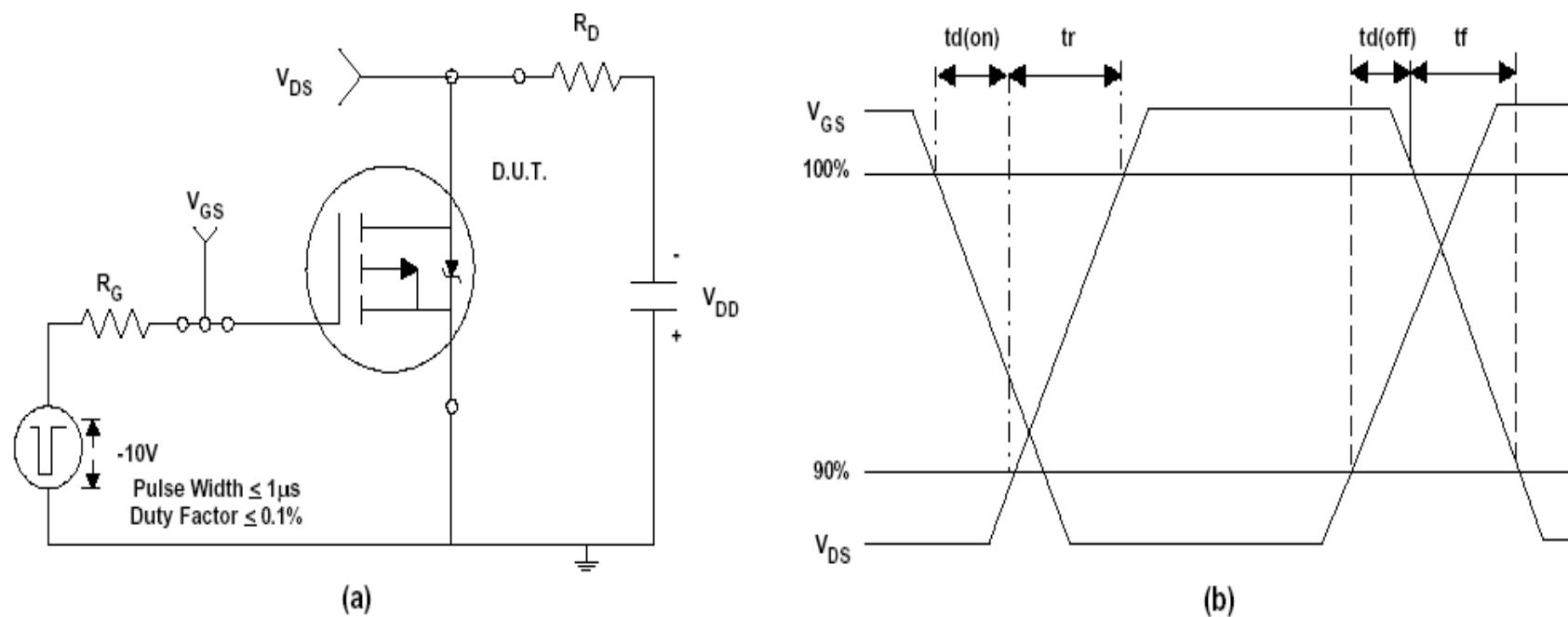


Breakdown Characteristics



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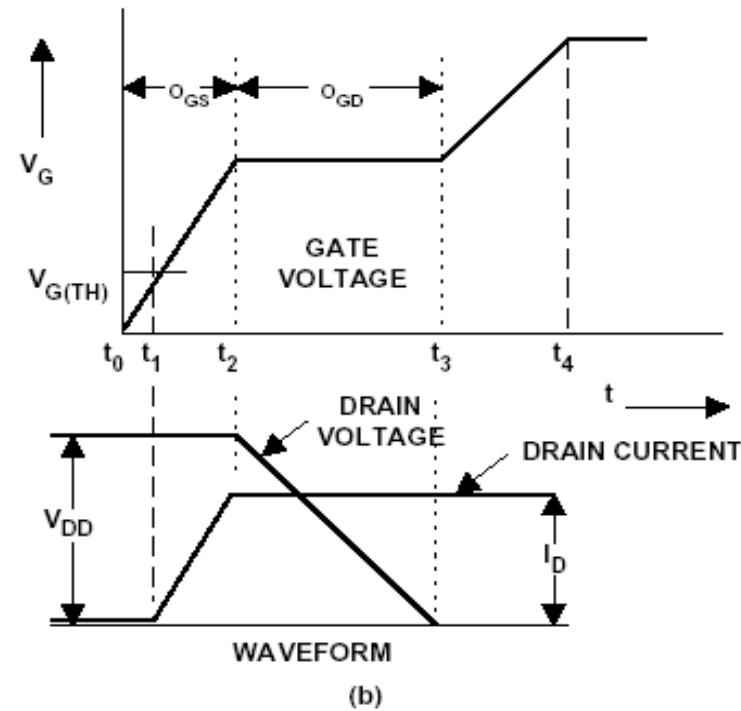
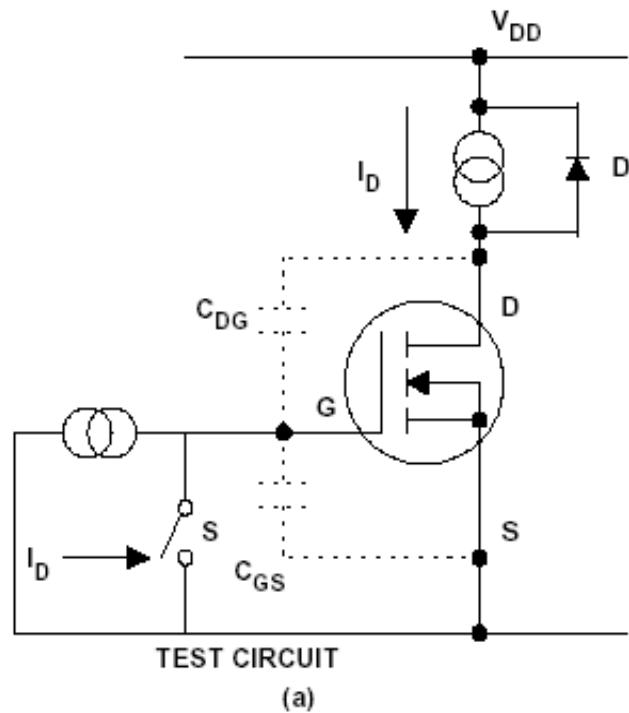
POWER MOSFET Switching Model





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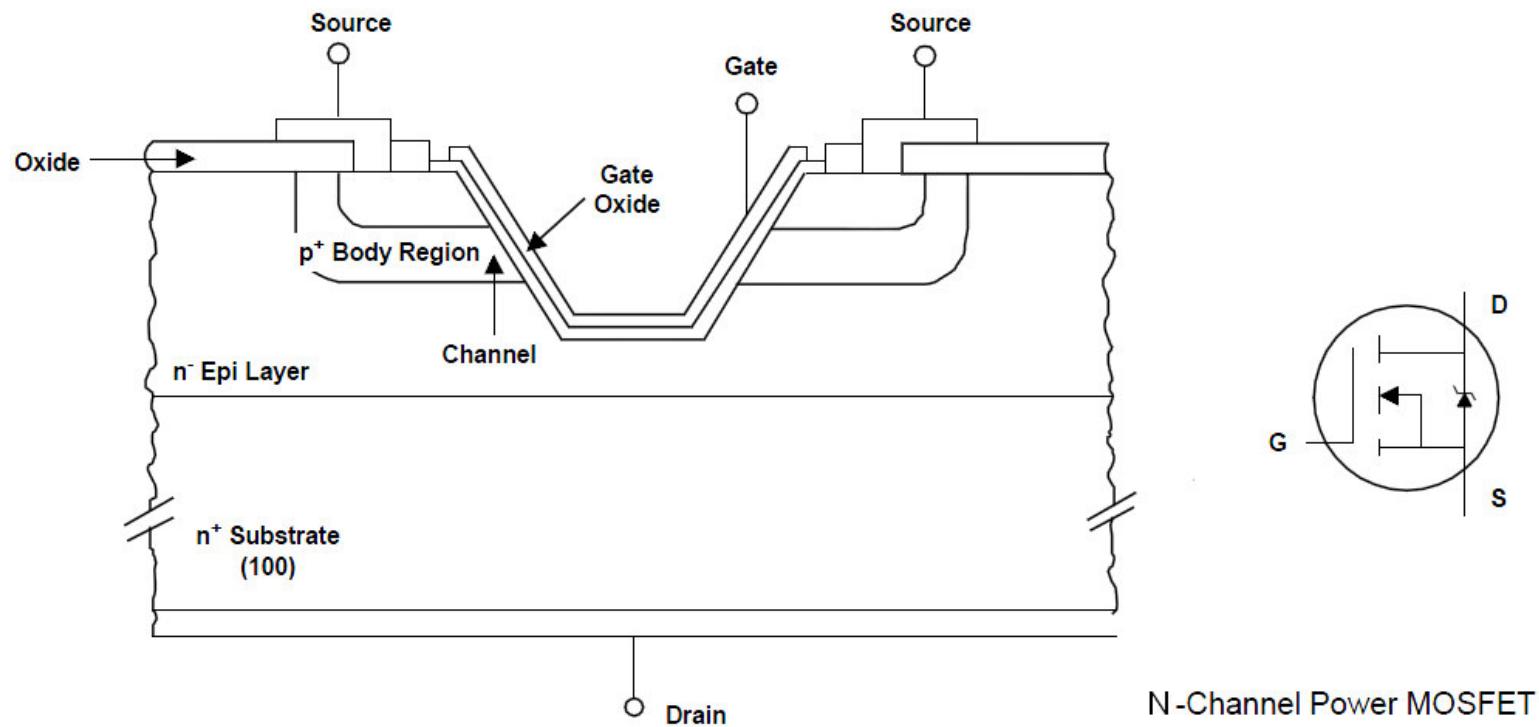
Power MOSFET Gate Charge Model





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Trench POWER MOSFET Structure

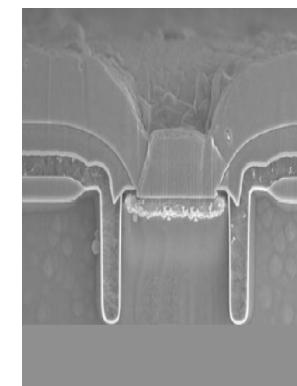
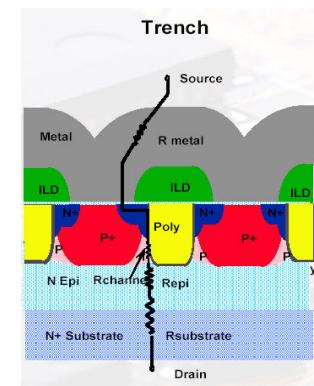
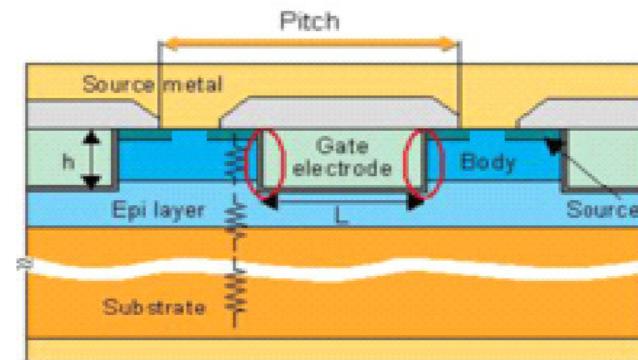
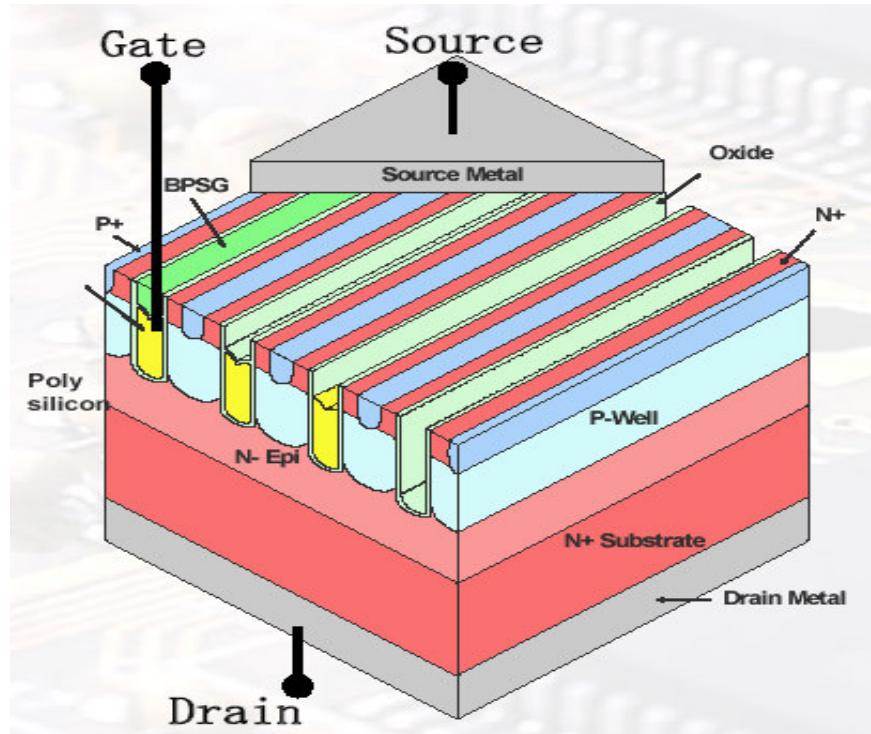


N-Channel Power MOSFET



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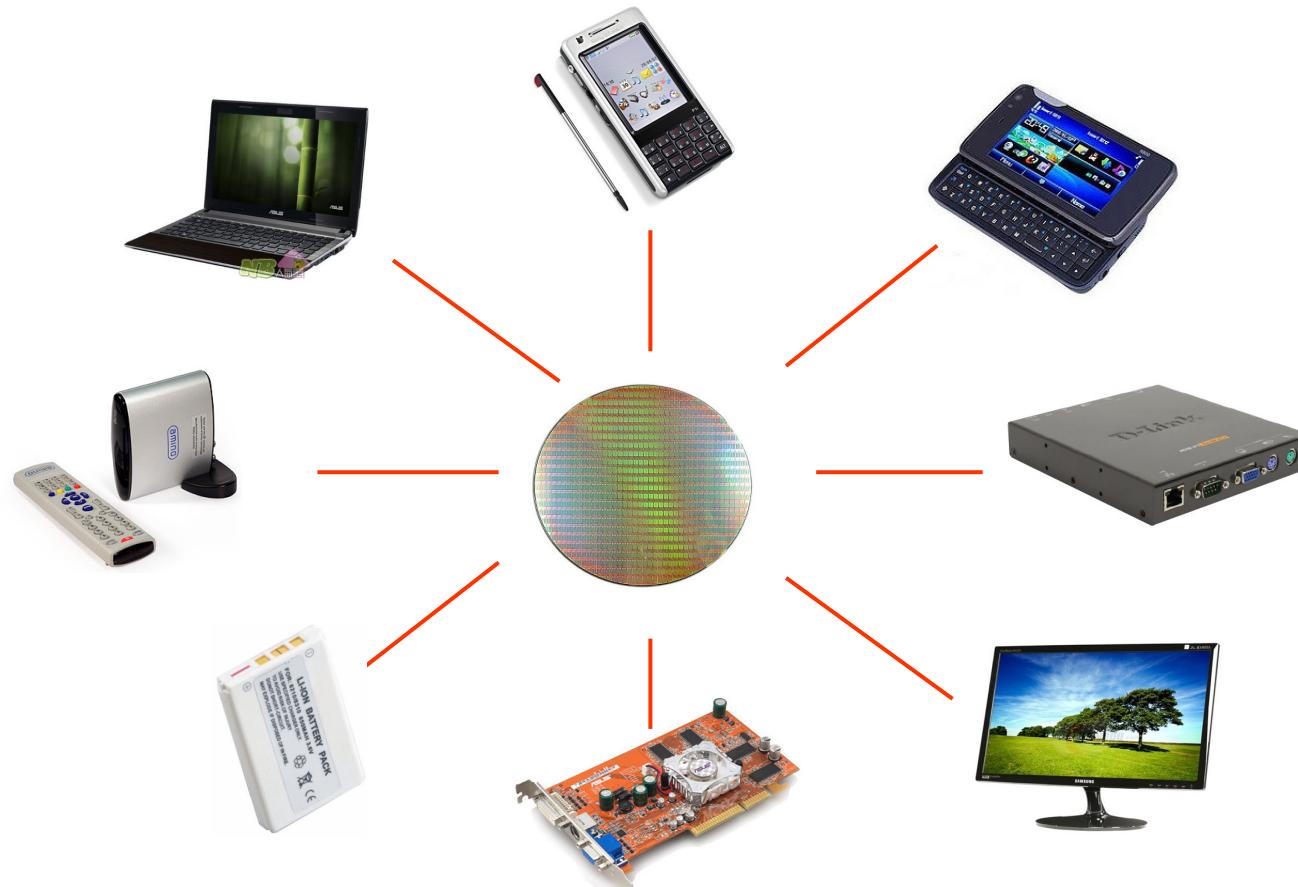
Trench POWER MOSFET Structure





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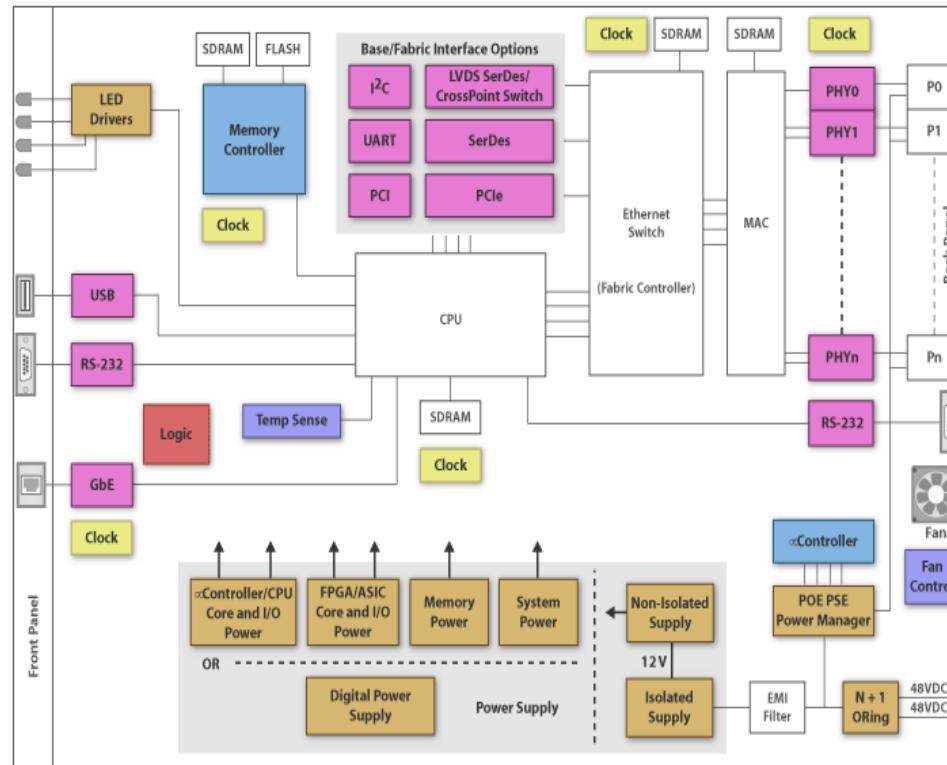
Alfa – MOS POWER MOSFET Application Field





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Trench POWER MOSFET for Ethernet



Package : SOT-23-3L

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	25°C	Package
				Min	Max		10V	4.5V	2.5V	1.8V			
AFP2301	P	20	12	0.5	1	2.6	-	110	165	-	1.25	W	SOT-23-3L
AFP2301S	P	20	12	0.5	1	3	-	120	170	-	1.25	W	SOT-23-3L
AFP2367S	P	20	12	0.5	1	3	-	65	80	105	1.25	W	SOT-23-3L
AFP3413	P	20	12	0.3	0.7	3.2	-	100	130	195	1.25	W	SOT-23-3L
AFN2312	N	20	12	0.4	0.8	4	-	36	40	52	1.25	W	SOT-23-3L
AFN3406	N	30	20	1	2	4	42	52	-	-	1.25	W	SOT-23-3L
AFN3406S	N	30	20	1.3	2.1	4	40	50	-	-	1.25	W	SOT-23-3L
AFN3416	N	20	12	0.4	1	4	-	26	30	36	1.25	W	SOT-23-3L

Package : SOT-363 (Dual Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	25°C	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V		
AFC1563	P	20	12	0.4	1	1	-	600	840	1440	0.3	W	SOT-363
AFC6332	N	20	12	0.4	1	1.2	-	280	340	580	0.3	W	SOT-363

Package : SOT-23

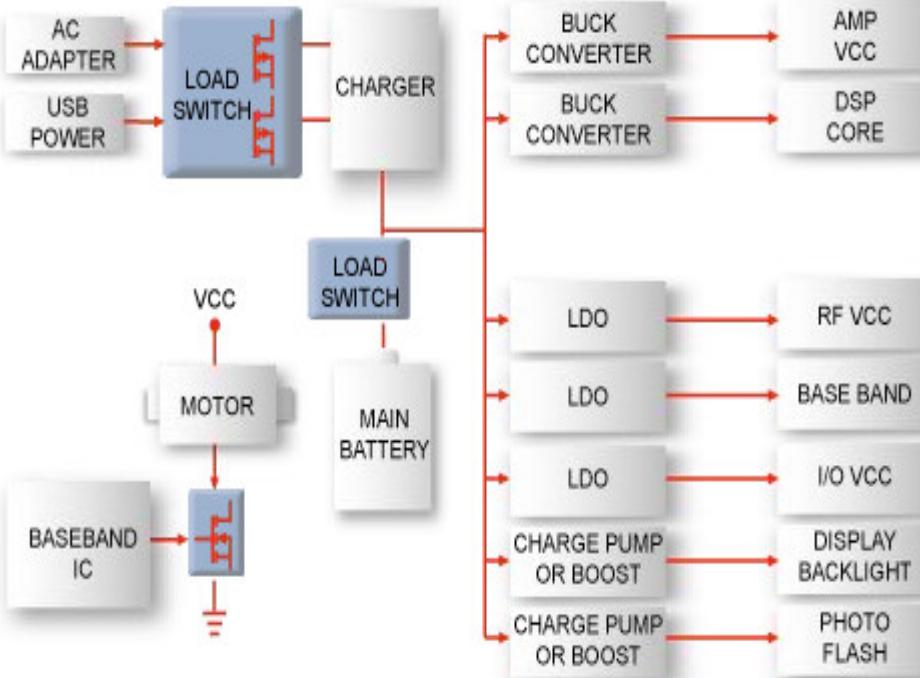
Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	25°C	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V		
AFP2301A	P	20	12	0.5	1	2.6	-	110	165	-	1.25	W	SOT-23
AFP2301AS	P	20	12	0.5	1	2.4	-	125	170	-	1.25	W	SOT-23
AFP2367AS	P	20	12	0.5	1	2.8	-	72	87	112	1.25	W	SOT-23
AFP3401AS	P	30	12	0.6	1.1	2.8	75	85	108	-	1.25	W	SOT-23
AFN3413A	P	20	12	0.3	0.7	2.6	-	105	145	205	1.25	W	SOT-23
AFN2312A	N	20	12	0.4	0.8	2.8	-	45	48	64	1.25	W	SOT-23
AFN3414A	N	20	12	0.3	0.8	2.4	-	70	80	100	1.25	W	SOT-23



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Trench POWER MOSFET for Cell Phone / Smart Phone



Package : SOT-523

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		10V	4.5V	2.5V	1.8V		
AFP1013	P	20	12	0.4	1	0.7	-	620	860	1450	0.27	SOT-523
AFN1012	N	20	12	0.4	1	0.7	-	360	420	560	0.27	SOT-523
AFN1012E	N	20	12	0.3	0.8	0.7	-	360	420	560	0.27	SOT-523
AFN1032	N	30	12	0.5	1	0.7	-	380	460	600	0.27	SOT-523

Package : SOT-563

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFP1023	P	20	12	0.4	1	0.7	-	620	860	1450	0.27	SOT-563
AFN1024	N	20	12	0.4	1	0.7	-	360	420	560	0.27	SOT-563
AFN1024E	N	20	12	0.3	0.8	0.7	-	360	420	560	0.27	SOT-563
AFN1034	N	30	12	0.5	1	0.7	-	380	460	600	0.27	SOT-563

Package : TSOP-6 (Dual Channel)

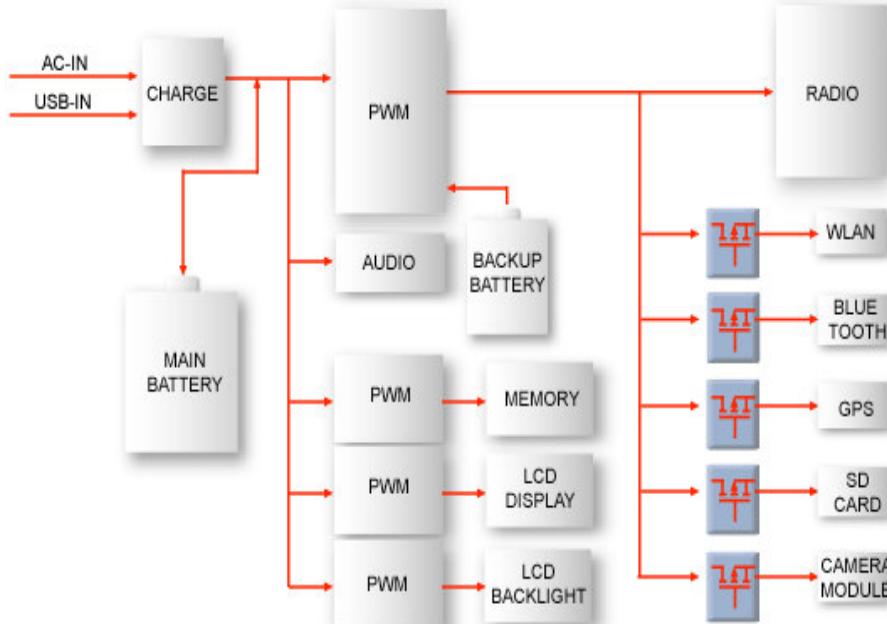
Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package	
				Min	Max		25°C	10V	4.5V	2.5V	1.8V		
AFP3981	P	20	12	0.3	0.7	3.2	-	100	135	200	-	TSOP-6	
	P	20	12	0.3	0.7	3.2	-	100	135	200	-	TSOP-6	
AFP3993	P	30	20	1.6	2.6	3.6	-	150	235	-	-	TSOP-6	
	P	30	20	1.6	2.6	3.6	-	150	235	-	-	TSOP-6	
AFP6801	P	30	12	0.6	1.4	3.8	135	175	245	-	-	TSOP-6	
	P	30	12	0.6	1.4	3.8	135	175	245	-	-	TSOP-6	
AFN6561	N	30	20	1.2	2.2	3.6	75	102	-	-	-	2	TSOP-6
	N	30	20	1.2	2.2	3.6	75	102	-	-	-	2	TSOP-6
AFN6562	N	30	12	0.3	1	3.6	75	80	100	-	-	2	TSOP-6
	N	30	12	0.3	1	3.6	75	80	100	-	-	2	TSOP-6



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Trench POWER MOSFET for Smart Phone / Smart PDA



Package : SOT-23

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package
				Min	Max		25°C	10V	4.5V	2.5V	
AFP3413A	P	20	12	0.3	0.7	2.6	-	105	145	205	1.25
AFN3406A	N	30	20	1	2	2.4	48	58	-	-	1.25
AFN3406AS	N	30	20	1.3	2.1	2.8	45	55	-	-	1.25

Package : SOT-23-3L

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package
				Min	Max		25°C	10V	4.5V	2.5V	
AFP3413	P	20	12	0.3	0.7	3.2	-	100	130	195	1.25
AFN3406	N	30	20	1	2	4	42	52	-	-	1.25
AFN3406S	N	30	20	1.3	2.1	4	40	50	-	-	1.25

Package : SOT-363 (Dual Channel)

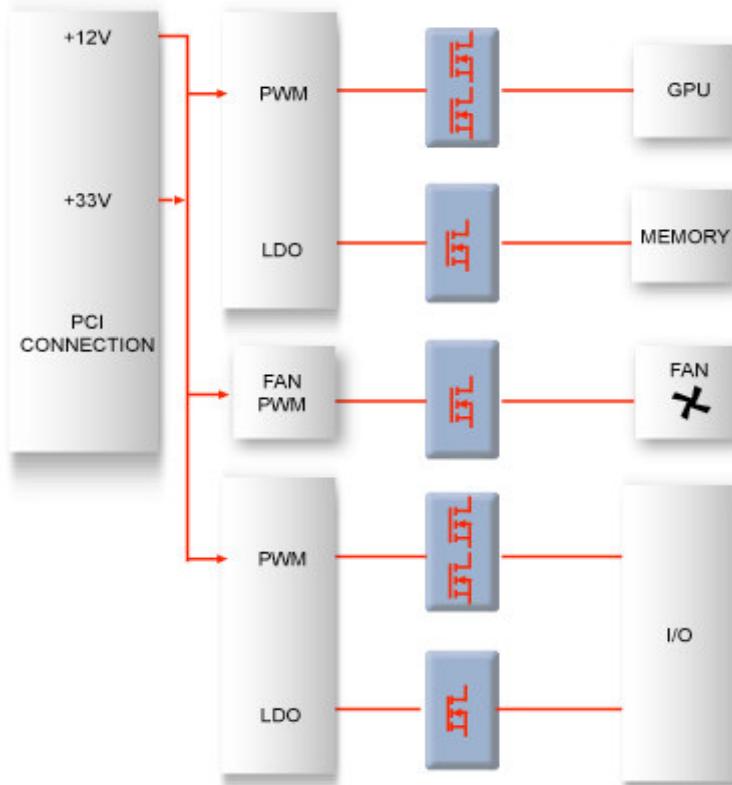
Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package
				Min	Max		25°C	10V	4.5V	2.5V	
AFC1563	P	20	12	0.4	1	1	-	600	840	1440	0.3
AFC1563	N	20	12	0.4	1	1.2	-	280	340	580	
AFC6332	P	20	12	0.4	1	1	-	600	840	1440	0.3
AFC6332	N	20	12	0.4	1	1.2	-	280	340	580	



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Trench POWER MOSFET for VGA Card Power



Package : TO-252-2L

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package	
				Min	Max		10V	4.5V	2.5V	1.8V		
AFN2604	N	40	20	1.5	3	20	20	40	-	-	40	TO-252-2L
AFN30258	N	30	12	0.6	1.1	15	32	36	42	-	-	40
AFN3030	N	30	20	1	2	12	30	40	-	-	-	40
AFN3484	N	30	20	0.8	1.8	12	18	20	-	-	-	40
AFN4804	N	40	20	1	2	16	48	70	-	-	-	40
AFN9971	N	60	20	1	2.5	25	42	50	-	-	-	40

Package : SOP-8P (Single Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package	
				Min	Max		10V	4.5V	2.5V	1.8V		
AFN4134	N	30	20	0.8	1.8	12	15	20	-	-	2.8	SOP-8P
AFN4412	N	30	20	1	2	7.6	35	42	-	-	2.8	SOP-8P
AFN4822S	N	30	20	1.3	2.1	6	30	42	-	-	2.8	SOP-8P
AFN4822WS	N	30	20	1.3	2.1	6	34	44	-	-	2.8	SOP-8P

Package : SOT-23-3L

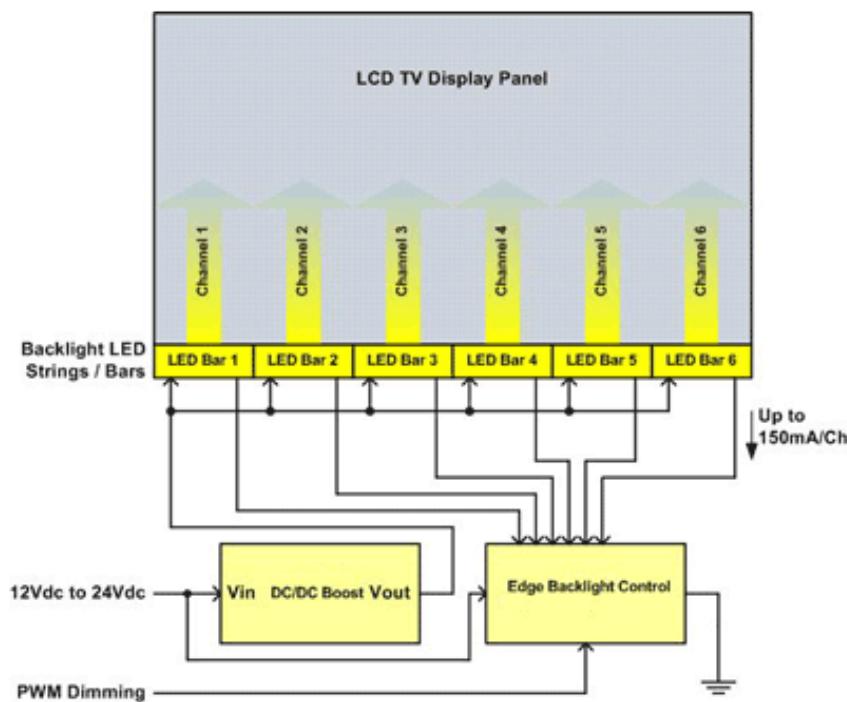
Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package	
				Min	Max		10V	4.5V	2.5V	1.8V		
AFN2312	N	20	12	0.4	0.8	4	-	36	40	52	1.25	SOT-23-3L
AFN3414	N	20	12	0.3	0.8	3.6	-	58	68	88	1.25	SOT-23-3L
AFN3414S	N	20	12	0.5	1	4	-	50	60	105	1.25	SOT-23-3L
AFN3416	N	20	12	0.4	1	4	-	26	30	36	1.25	SOT-23-3L



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Trench POWER MOSFET for LED Backlight LCD



Package : SOP-8P (Dual Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package
				Min	Max		25°C	10V	4.5V	2.5V	
AFN4906	N	40	20	1	2	6.8	52	70	-	-	2.8
	N	40	20	1	2	6.8	52	70	-	-	
AFN4924	N	40	20	1.5	3	8	24	48	-	-	2.8
	N	40	20	1.5	3	8	24	48	-	-	
AFN4946	N	60	20	1	2.5	6.8	42	50	-	-	2.8
	N	60	20	1	2.5	6.8	42	50	-	-	

Package : SOP-8P (Single Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package
				Min	Max		25°C	10V	4.5V	2.5V	
AFN4424	N	40	20	1.5	3	8	24	48	-	-	2.8
AFN4440	N	60	20	1	2.5	6.8	42	50	-	-	2.8

Package : TO-252-2L

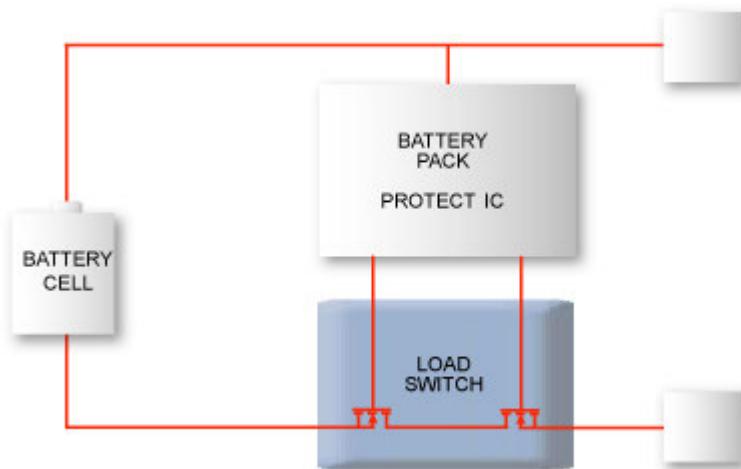
Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				Package
				Min	Max		25°C	10V	4.5V	2.5V	
AFP3804	P	40	20	1.5	3	10	38	54	-	-	40
AFN2604	N	40	20	1.5	3	20	20	40	-	-	40
AFN4804	N	40	20	1	2	16	48	70	-	-	40
AFN9971	N	60	20	1	2.5	25	42	50	-	-	40



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Trench POWER MOSFET for Battery Pack



Package : TSOP-6 (Dual Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFN8205	N	20	12	0.4	0.8	4	-	34	40	50	-	2
	N	20	12	0.4	0.8	4	-	34	40	50	-	
AFN8205S	N	20	12	0.5	1	4	-	40	44	-	-	2
	N	20	12	0.5	1	4	-	40	44	-	-	

Package : TSSOP-8

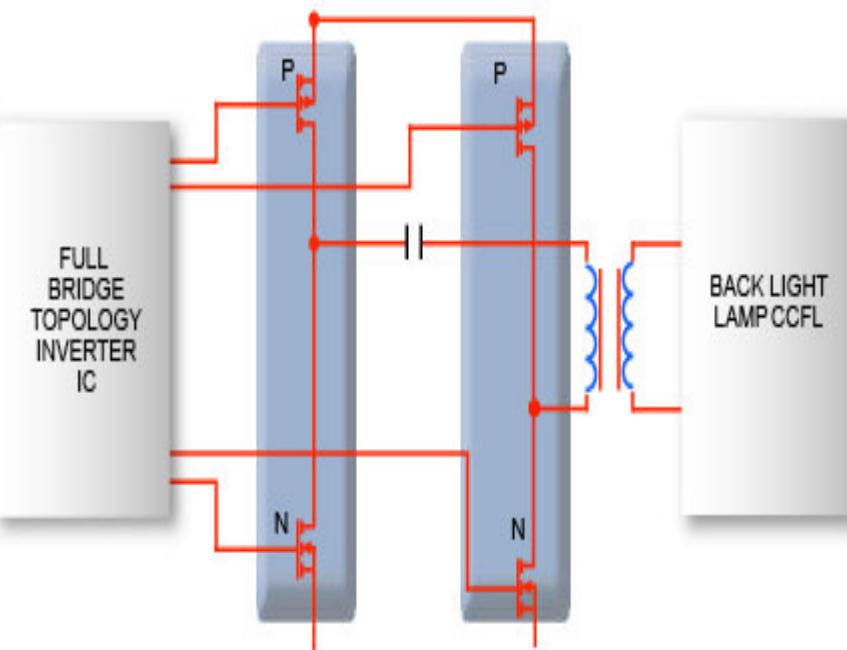
Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFN8822	N	20	12	0.4	0.8	7.2	-	28	32	45	2.8	TSSOP-8
AFN8822S	N	20	12	0.5	1	6.5	-	32	35	-	2.8	TSSOP-8



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Trench POWER MOSFET for CCFL Backlight Inverter



Package : TO-252-2L

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFP3050S	P	30	12	0.6	1.1	15	60	72	108	-	40	TO-252-2L
AFP3804	P	40	20	1.5	3	10	38	54	-	-	40	TO-252-2L
AFN2604	N	40	20	1.5	3	20	20	40	-	-	40	TO-252-2L
AFN3025S	N	30	12	0.6	1.1	15	32	36	42	-	40	TO-252-2L
AFN3030	N	30	20	1	2	12	30	40	-	-	40	TO-252-2L
AFN3484	N	30	20	0.8	1.8	12	18	20	-	-	40	TO-252-2L
AFN4804	N	40	20	1	2	16	48	70	-	-	40	TO-252-2L
AFN9971	N	60	20	1	2.5	25	42	50	-	-	40	TO-252-2L

Package : SOP-8P (Dual Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFP4535	P	40	20	1.5	3	6.8	35	42	-	-	-	2.8
	P	40	20	1.5	3	6.8	35	42	-	-	-	SOP-8P
AFP4953S	P	30	20	1	2.5	5.4	52	76	-	-	-	2.8
	P	30	20	1	2.5	5.4	52	76	-	-	-	SOP-8P
AFN4210	N	30	20	1	2	6.8	35	42	-	-	-	2.8
	N	30	20	1	2	6.8	35	42	-	-	-	SOP-8P
AFN4906	N	40	20	1	2	6.8	52	70	-	-	-	2.8
	N	40	20	1	2	6.8	52	70	-	-	-	SOP-8P
AFN4924	N	40	20	1.5	3	8	24	48	-	-	-	2.8
	N	40	20	1.5	3	8	24	48	-	-	-	SOP-8P
AFN4946	N	60	20	1	2.5	6.8	42	50	-	-	-	2.8
	N	60	20	1	2.5	6.8	42	50	-	-	-	SOP-8P
AFN4936S	N	30	20	1.3	2.1	5.4	30	42	-	-	-	2.8
	N	30	20	1.3	2.1	5.4	30	42	-	-	-	SOP-8P
AFC4539S	P	30	20	1	2.5	5.4	65	92	-	-	-	2.8
	N	30	20	1.3	2.1	5.4	40	50	-	-	-	SOP-8P



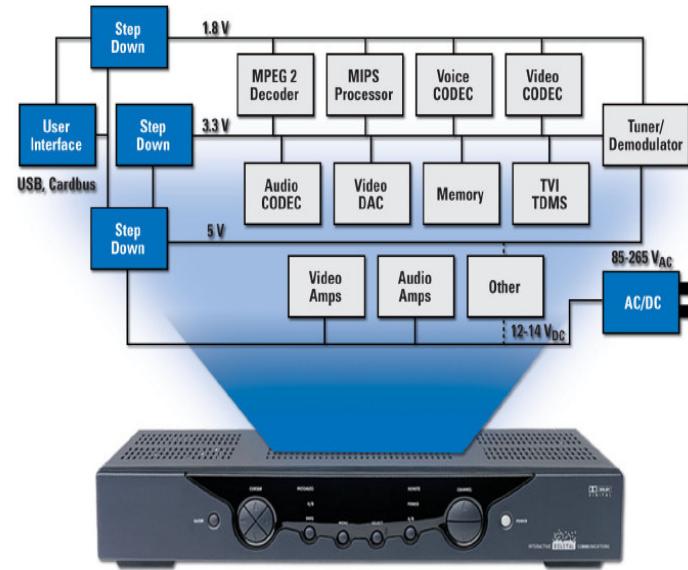
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Trench POWER MOSFET for Set-Top Box



Set Top Box



Example digital set top box power block diagram.

Package : SOT-363 (Dual Channel)

Part No.	Type	VDSS	VGS	VTH		IDS 25°C	RDS(Max)				PD 25°C	Package
				Min	Max		V	V	A	mΩ	mΩ	
AFC1563	P	20	12	0.4	1	1	-	600	840	1440	-	0.3
	N	20	12	0.4	1	1.2	-	280	340	580	-	
AFC6332	P	20	12	0.4	1	1	-	600	840	1440	-	0.3
	N	20	12	0.4	1	1.2	-	280	340	580	-	

Package : SOT-23

Part No.	Type	VDSS	VGS	VTH		IDS 25°C	RDS(Max)				PD 25°C	Package
				Min	Max		V	V	A	mΩ	mΩ	
AFP2301A	P	20	12	0.5	1	2.6	-	110	165	-	1.25	SOT-23
AFP2301AS	P	20	12	0.5	1	2.4	-	125	170	-	1.25	SOT-23
AFP2367AS	P	20	12	0.5	1	2.8	-	72	87	112	1.25	SOT-23
AFP3401AS	P	30	12	0.6	1.1	2.8	75	85	108	-	1.25	SOT-23
AFP3407AS	P	30	20	1	2.5	2.8	77	102	-	-	1.25	SOT-23
AFP3413A	P	20	12	0.3	0.7	2.6	-	105	145	205	1.25	SOT-23
AFN2302AS	N	20	12	0.5	1	2.4	-	90	110	-	1.25	SOT-23
AFN3400A	N	30	20	0.5	1	2.4	54	58	65	-	1.25	SOT-23
AFN3400AS	N	30	12	0.6	1.1	2.8	50	55	75	-	1.25	SOT-23
AFN3402A	N	30	12	0.3	1.0	2.4	82	87	110	-	1.25	SOT-23
AFN3406A	N	30	20	1	2	2.4	48	58	-	-	1.25	SOT-23
AFN3406AS	N	30	20	1.3	2.1	2.8	45	55	-	-	1.25	SOT-23
AFN3414A	N	20	12	0.3	0.8	2.4	-	70	80	100	1.25	SOT-23



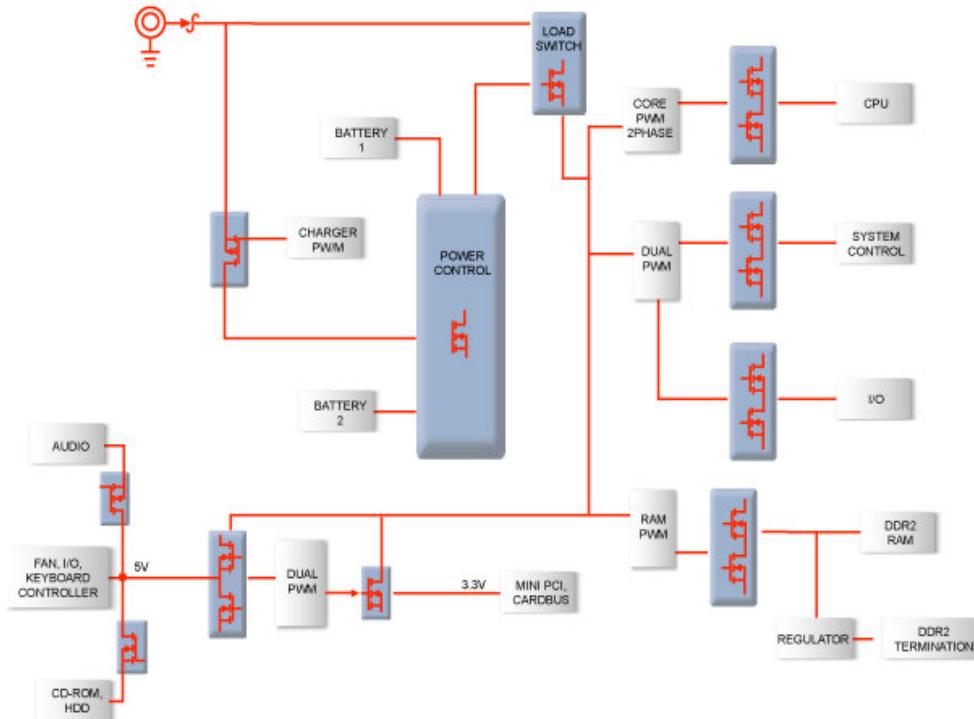
Alfa-MOS Technology Corp.
聞能科技股份有限公司



Trench POWER MOSFET for Notebook / iPad



NB
应用



Package : SOP-8P (Single Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFP4637	P	40	20	1.5	3	6.8	37	54	-	-	-	2.8
AFN4134	N	30	20	0.8	1.8	12	15	20	-	-	-	2.8
AFN4412	N	30	20	1	2	7.6	35	42	-	-	-	2.8
AFN4422	N	30	12	0.5	1	6.8	36	42	50	-	-	2.8
AFN4424	N	40	20	1.5	3	8	24	48	-	-	-	2.8
AFN4822S	N	30	20	1.3	2.1	6	30	42	-	-	-	2.8
AFN4822WS	N	30	20	1.3	2.1	6	34	44	-	-	-	2.8

Package : SOP-8P (Dual Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFN4210	N	30	20	1	2	6.8	35	42	-	-	-	2.8
AFN4210	N	30	20	1	2	6.8	35	42	-	-	-	2.8
AFN4214	N	30	20	0.8	1.8	9	16	20	-	-	-	2.8
AFN4936S	N	30	20	0.8	1.8	9	16	20	-	-	-	2.8
AFN4936WS	N	30	20	1.3	2.1	5.4	30	42	-	-	-	2.8
AFN4936WS	N	30	20	1.3	2.1	5.4	30	42	-	-	-	2.8
AFN4936WS	N	30	20	1.3	2.1	5.4	36	46	-	-	-	2.8
AFN4936WS	N	30	20	1.3	2.1	5.4	36	46	-	-	-	2.8

Package : TSOP-6 (Dual Channel)

Part No.	Type	VDSS	VGS	VTH		IDS	RDS(Max)				PD	Package
				Min	Max		25°C	10V	4.5V	2.5V	1.8V	
AFN6561	N	30	20	1.2	2.2	3.6	75	102	-	-	-	2
AFN6561	N	30	20	1.2	2.2	3.6	75	102	-	-	-	2
AFN6562	N	30	12	0.3	1	3.6	75	80	100	-	-	2
AFN6562	N	30	12	0.3	1	3.6	75	80	100	-	-	2