



Vincotech

10-EY12NMA011ME30-LS28F18T datasheet

flowMNPC E2

1200 V / 11 mΩ

Features

- Three-level high efficient topology
- High frequency SIC MOSFET
- Compact and low inductive design
- Integrated NTC

Target applications

- Power Supply

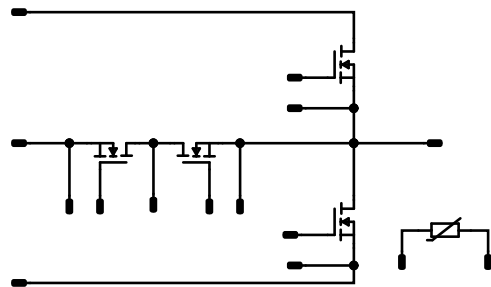
Types

- 10-EY12NMA011ME30-LS28F18T

flow E2 12 mm housing



Schematic





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Maximum Ratings

$T_j = 25\text{ °C}$, unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
Buck Switch				
Drain-source voltage	V_{DS}		1200	V
Drain current (DC current)	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	110	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	360	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	194	W
Gate-source voltage	V_{GS}		-4 / 15	V
		dynamic	-8 / 19	
Maximum Junction Temperature	T_{jmax}		175	°C

Boost Switch

Drain-source voltage	V_{DS}		1200	V
Drain current (DC current)	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	110	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	360	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	194	W
Gate-source voltage	V_{GS}		-4 / 15	V
		dynamic	-8 / 19	
Maximum Junction Temperature	T_{jmax}		175	°C

Module Properties

Thermal Properties

Storage temperature	T_{stg}		-40...+125	°C
Operation temperature under switching condition	T_{jop}		-40...+($T_{jmax} - 25$)	°C

Isolation Properties

Isolation voltage	V_{isol}	DC Test Voltage* $t_p = 2\text{ s}$	6000	V
Isolation voltage	V_{isol}	AC Voltage $t_p = 1\text{ min}$	2500	V
Creepage distance			>12,7	mm
Clearance			9,08	mm
Comparative Tracking Index	CTI		≥ 600	

*100 % tested in production



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Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	

Buck Switch

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		120	25 125 150	7,47	10 14 15	13,87 ⁽¹⁾	mΩ
Gate-source threshold voltage	$V_{GS(th)}$		0		0,0345	25	1,8	2,5	3,6	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		30	750	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	1200		25		3	57	μA
Internal gate resistance	r_g							0,567		Ω
Gate charge	Q_g		-4/15	800	120	25		354		nC
Short-circuit input capacitance	C_{iss}	$f = 100$ kHz	0	1000	0	25		10071		pF
Short-circuit output capacitance	C_{oss}							387		
Reverse transfer capacitance	C_{rss}							24		
Diode forward voltage	V_{SD}		0		60	25		4,6		V

Thermal

Thermal resistance junction to sink ⁽²⁾	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,49		K/W
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Characteristic Values

Parameter	Symbol	Conditions					Values			Unit	
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max		
Dynamic											
Turn-on delay time	$t_{d(on)}$	$R_{gon} = 4 \ \Omega$ $R_{goff} = 4 \ \Omega$	-4/15	350	95	25		39,73		ns	
						125		36,37			
						150		35,82			
Rise time	t_r					25		19,2		ns	
						125		16,47			
						150		15,97			
Turn-off delay time	$t_{d(off)}$	25					78,17		ns		
		125					85,41				
		150					87,88				
Fall time	t_f	25					26,82		ns		
		125					26,52				
		150					27,83				
Turn-on energy (per pulse)	E_{on}	$Q_{tFWD}=0,834 \ \mu C$ $Q_{tFWD}=1,74 \ \mu C$ $Q_{tFWD}=2,05 \ \mu C$				25		0,572		mWs	
						125		0,522			
						150		0,512			
Turn-off energy (per pulse)	E_{off}					25		0,359		mWs	
						125		0,372			
						150		0,38			
Peak recovery current	I_{RRM}	$di/dt=6334 \ A/\mu s$ $di/dt=6942 \ A/\mu s$ $di/dt=7078 \ A/\mu s$	600	80	25		60,2		A		
					125		89,93				
					150		102,11				
Reverse recovery time	t_{rr}				25		19,19		ns		
					125		27,81				
					150		29,38				
Recovered charge	Q_r				25		0,665		μC		
					125		1,58				
					150		1,93				
Reverse recovered energy	E_{rec}				25		0,12		mWs		
					125		0,436				
					150		0,559				
Peak rate of fall of recovery current	$(di_{rr}/dt)_{max}$	25				8825,36		A/ μs			
		125				8339,9					
		150				10224,85					



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Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	

Boost Switch

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		120	25 125 150	7,47	10 14 15	13,87 ⁽¹⁾	mΩ
Gate-source threshold voltage	$V_{GS(th)}$		0		0,0345	25	1,8	2,5	3,6	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		30	750	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	1200		25		3	57	μA
Internal gate resistance	r_g							0,567		Ω
Gate charge	Q_g		-4/15	800	120	25		354		nC
Short-circuit input capacitance	C_{iss}	$f = 100$ kHz	0	1000	0	25		10071		pF
Short-circuit output capacitance	C_{oss}							387		
Reverse transfer capacitance	C_{rss}							24		
Diode forward voltage	V_{SD}		0		60	25		4,6		V

Thermal

Thermal resistance junction to sink ⁽²⁾	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,49		K/W
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Characteristic Values

Parameter	Symbol	Conditions						Values			Unit	
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max			
Dynamic												
Turn-on delay time	$t_{d(on)}$	$R_{gon} = 4 \Omega$ $R_{goff} = 4 \Omega$	-4/15	600	80	25		39,18		ns		
						125		35,99				
						150		35,34				
Rise time	t_r							25		15,5		ns
								125		13,53		
								150		13,12		
Turn-off delay time	$t_{d(off)}$							25		91,9		ns
								125		101,19		
								150		103,17		
Fall time	t_f							25		16,26		ns
								125		18,5		
								150		16,87		
Turn-on energy (per pulse)	E_{on}	Q_{rFWD} =0,665 μ C Q_{rFWD} =1,58 μ C Q_{rFWD} =1,93 μ C				25		1,26		mWs		
						125		1,32				
						150		1,39				
Turn-off energy (per pulse)	E_{off}					25		0,676		mWs		
						125		0,65				
						150		0,672				
Peak recovery current	I_{RRM}	di/dt =6062 A/ μ s di/dt =6980 A/ μ s di/dt =6940 A/ μ s		350	95	25		60,77		A		
						125		93,48				
						150		103,96				
Reverse recovery time	t_{rr}							25		23,51		ns
								125		30,2		
								150		32,02		
Recovered charge	Q_r							25		0,834		μ C
								125		1,74		
								150		2,05		
Reverse recovered energy	E_{rec}							25		0,172		mWs
								125		0,428		
								150		0,511		
Peak rate of fall of recovery current	$(di_{rr}/dt)_{max}$			25		7756,34		A/ μ s				
				125		8647,86						
				150		9554,37						



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Characteristic Values

Parameter	Symbol	Conditions					Values			Unit
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V] V_F [V]	I_C [A] I_D [A] I_F [A]	T_j [°C]	Min	Typ	Max	

Thermistor

Static

Rated resistance	R					25		5		kΩ
Deviation of R_{100}	$\Delta_{R/R}$	$R_{100} = 493 \Omega$				100	-5		5	%
Power dissipation	P							245		mW
Power dissipation constant	d					25		1,4		mW/K
B-value	$B_{(25/50)}$	Tol. $\pm 2 \%$						3375		K
B-value	$B_{(25/100)}$	Tol. $\pm 2 \%$						3437		K
Vincotech Thermistor Reference									K	

⁽¹⁾ Value at chip level

⁽²⁾ Only valid with pre-applied Vincotech thermal interface material.



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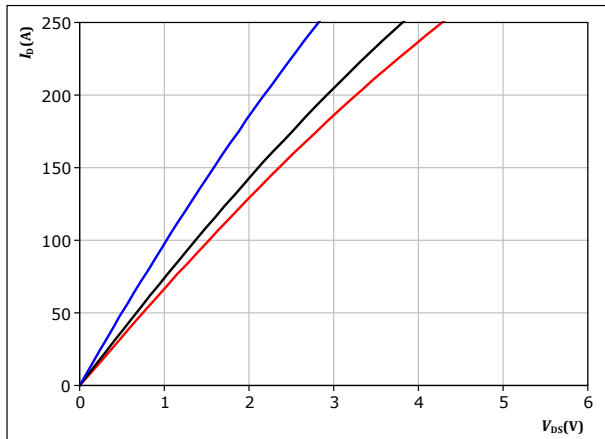
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Buck Switch Characteristics

figure 1. MOSFET

Typical output characteristics

$$I_D = f(V_{DS})$$



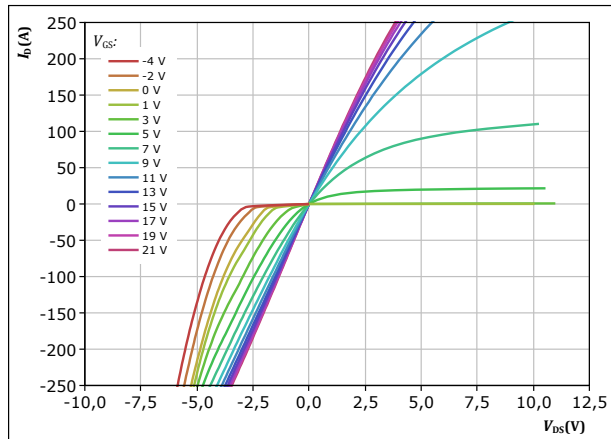
$t_p = 250 \mu s$
 $V_{GS} = 15 V$

T_j :
— 25 °C
— 125 °C
— 150 °C

figure 2. MOSFET

Typical output characteristics

$$I_D = f(V_{DS})$$

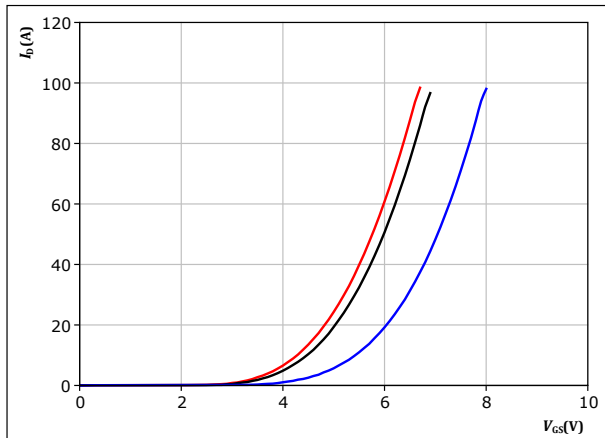


$t_p = 250 \mu s$
 $T_j = 150 ^\circ C$
 V_{GS} from -4 V to 21 V in steps of 2 V

figure 3. MOSFET

Typical transfer characteristics

$$I_D = f(V_{GS})$$



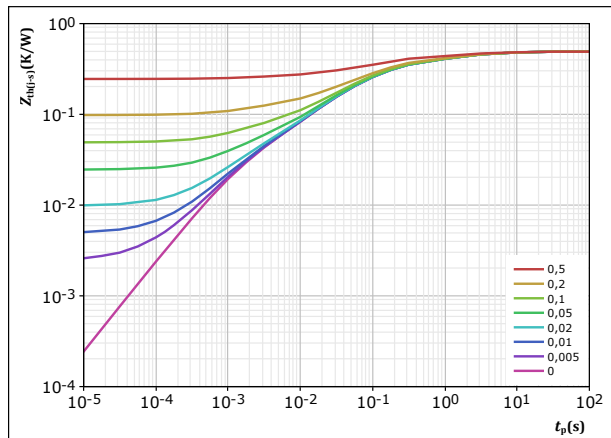
$t_p = 250 \mu s$
 $V_{DS} = 10 V$

T_j :
— 25 °C
— 125 °C
— 150 °C

figure 4. MOSFET

Transient thermal impedance as a function of pulse width

$$Z_{th(j-s)} = f(t_p)$$



$D = t_p / T$
 $R_{th(j-s)} = 0,491 K/W$
MOSFET thermal model values

$R (K/W)$	$\tau (s)$
4,84E-02	6,00E+00
1,15E-01	9,56E-01
2,27E-01	9,87E-02
7,54E-02	1,62E-02
2,51E-02	1,45E-03



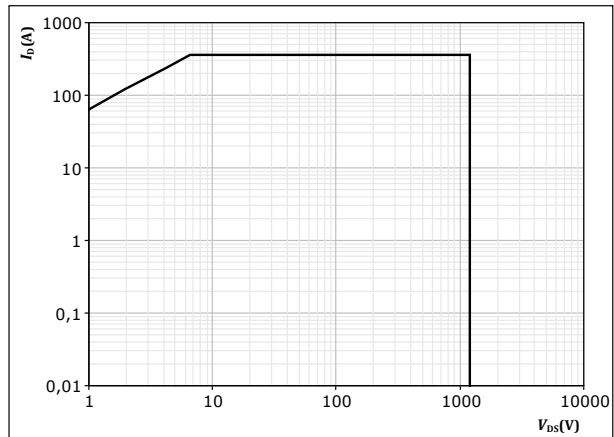
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Buck Switch Characteristics

figure 5. MOSFET

Safe operating area

$$I_D = f(V_{DS})$$



$D = \text{single pulse}$

$T_s = 80 \text{ } ^\circ\text{C}$
 $V_{GS} = 15 \text{ V}$
 $T_j = T_{jmax}$



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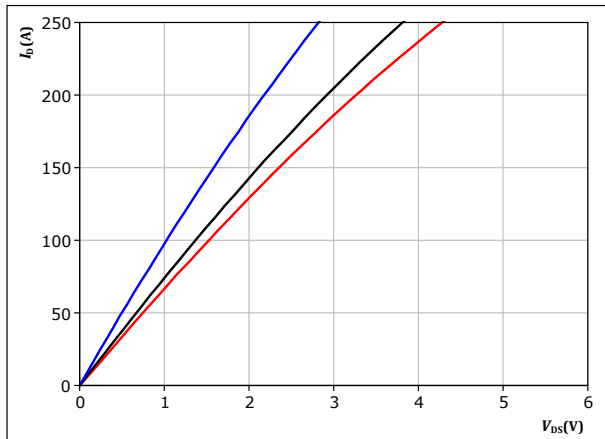
Boost Switch Characteristics

figure 6.

MOSFET

Typical output characteristics

$$I_D = f(V_{DS})$$



$t_p = 250 \mu s$
 $V_{GS} = 15 V$

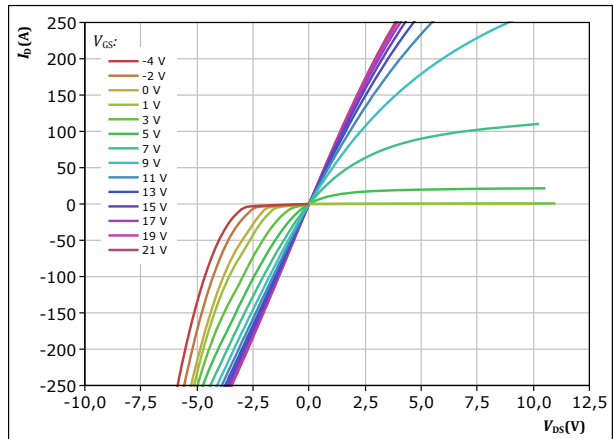
T_j :
— 25 °C
— 125 °C
— 150 °C

figure 7.

MOSFET

Typical output characteristics

$$I_D = f(V_{DS})$$



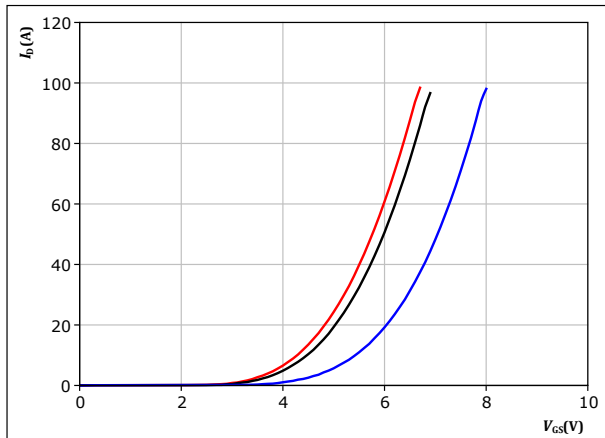
$t_p = 250 \mu s$
 $T_j = 150 ^\circ C$
 V_{GS} from -4 V to 21 V in steps of 2 V

figure 8.

MOSFET

Typical transfer characteristics

$$I_D = f(V_{GS})$$



$t_p = 250 \mu s$
 $V_{DS} = 10 V$

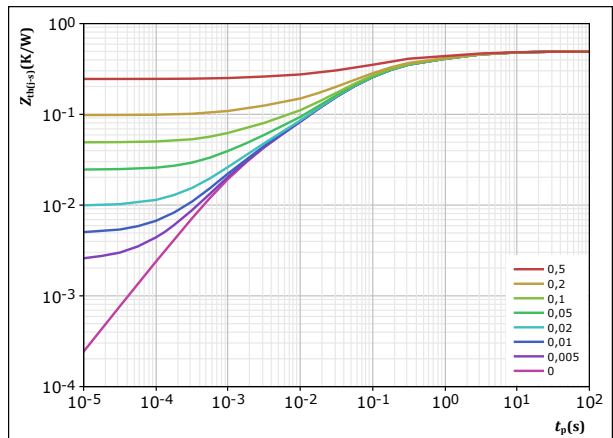
T_j :
— 25 °C
— 125 °C
— 150 °C

figure 9.

MOSFET

Transient thermal impedance as a function of pulse width

$$Z_{th(j-s)} = f(t_p)$$



$D = t_p / T$
 $R_{th(j-s)} = 0,491 K/W$
MOSFET thermal model values

$R (K/W)$	$\tau (s)$
4,84E-02	6,00E+00
1,15E-01	9,56E-01
2,27E-01	9,87E-02
7,54E-02	1,62E-02
2,51E-02	1,45E-03



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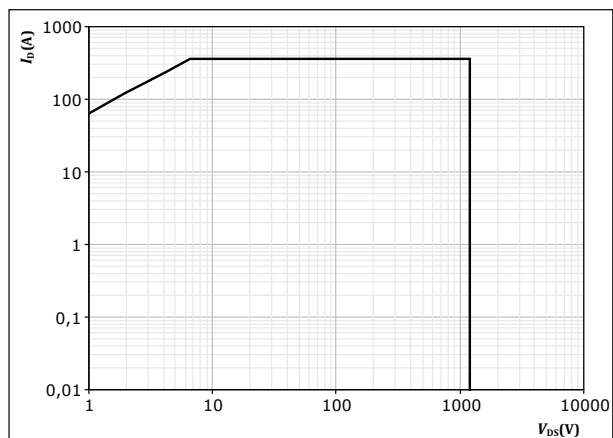
Boost Switch Characteristics

figure 10.

MOSFET

Safe operating area

$I_D = f(V_{DS})$



$D = \text{single pulse}$

$T_s = 80 \text{ } ^\circ\text{C}$

$V_{GS} = 15 \text{ V}$

$T_j = T_{jmax}$



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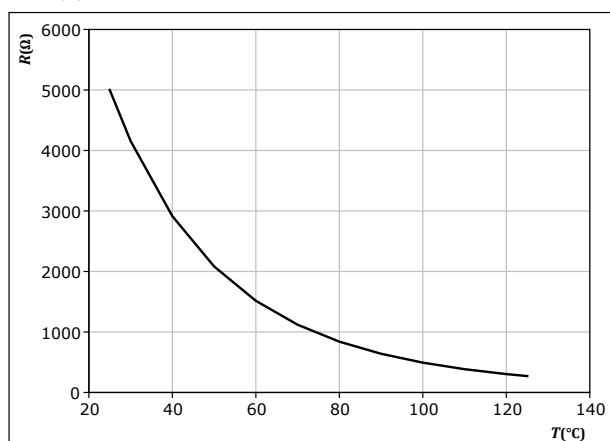
Thermistor Characteristics

figure 11.

Thermistor

Typical NTC characteristic as function of temperature

$$R_T = f(T)$$





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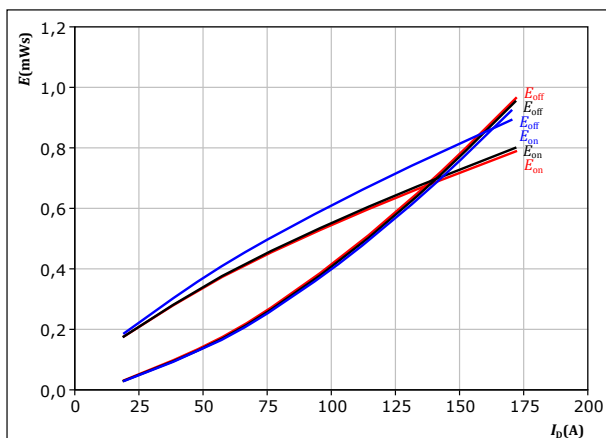
Buck Switching Characteristics

figure 12.

MOSFET

Typical switching energy losses as a function of drain current

$$E = f(I_D)$$



With an inductive load at

$V_{DS} = 350 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $R_{gon} = 4 \text{ } \Omega$
 $R_{goff} = 4 \text{ } \Omega$

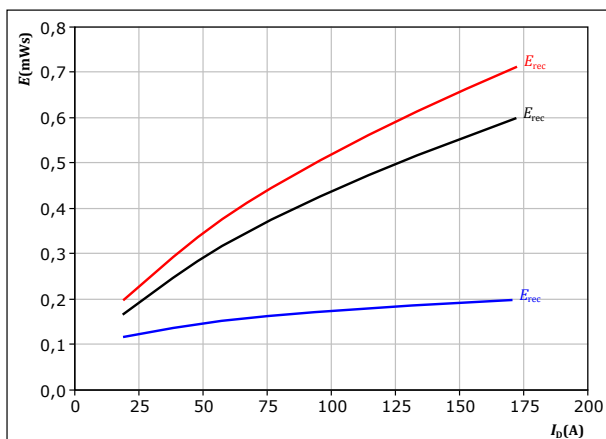
T_j : 25 °C
125 °C
150 °C

figure 14.

MOSFET

Typical reverse recovered energy loss as a function of drain current

$$E_{rec} = f(I_D)$$



With an inductive load at

$V_{DS} = 350 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $R_{gon} = 4 \text{ } \Omega$

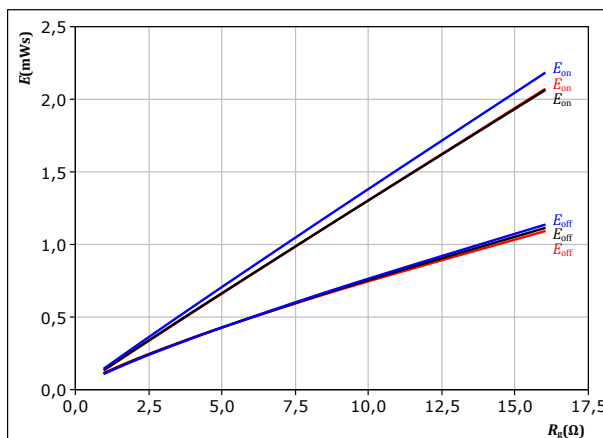
T_j : 25 °C
125 °C
150 °C

figure 13.

MOSFET

Typical switching energy losses as a function of gate resistor

$$E = f(R_g)$$



With an inductive load at

$V_{DS} = 350 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $I_D = 95 \text{ A}$

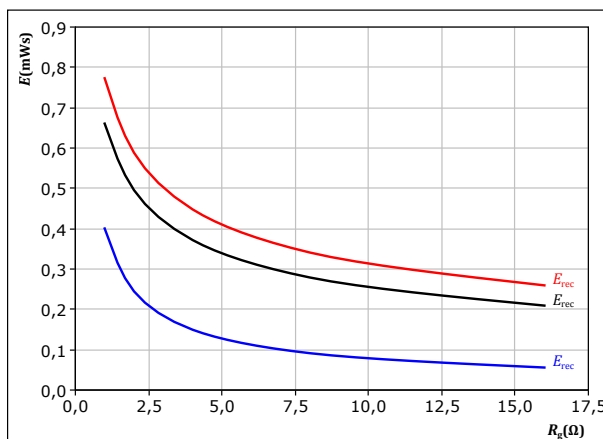
T_j : 25 °C
125 °C
150 °C

figure 15.

MOSFET

Typical reverse recovered energy loss as a function of gate resistor

$$E_{rec} = f(R_g)$$



With an inductive load at

$V_{DS} = 350 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $I_D = 95 \text{ A}$

T_j : 25 °C
125 °C
150 °C



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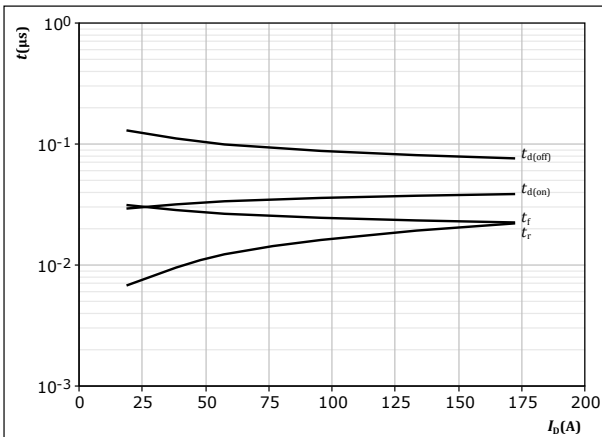
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Buck Switching Characteristics

figure 16.

MOSFET

Typical switching times as a function of drain current
 $t = f(I_D)$



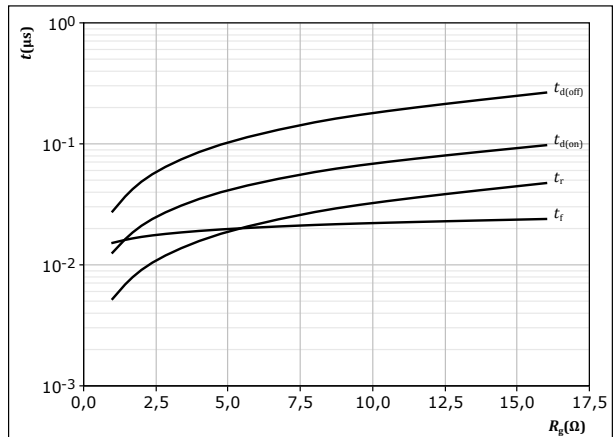
With an inductive load at

$T_j = 150$ °C
 $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 $R_{goff} = 4$ Ω

figure 17.

MOSFET

Typical switching times as a function of gate resistor
 $t = f(R_g)$



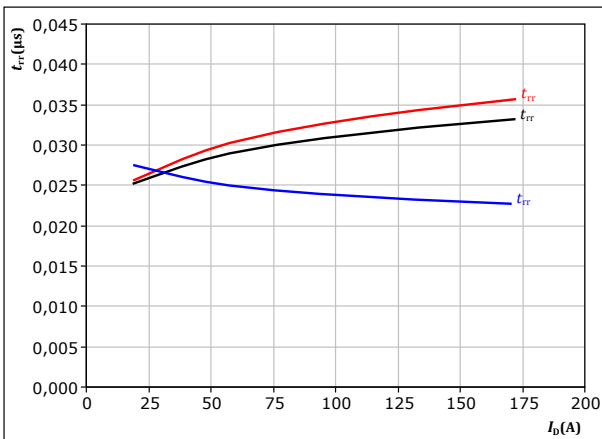
With an inductive load at

$T_j = 150$ °C
 $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $I_D = 95$ A

figure 18.

MOSFET

Typical reverse recovery time as a function of drain current
 $t_{rr} = f(I_D)$

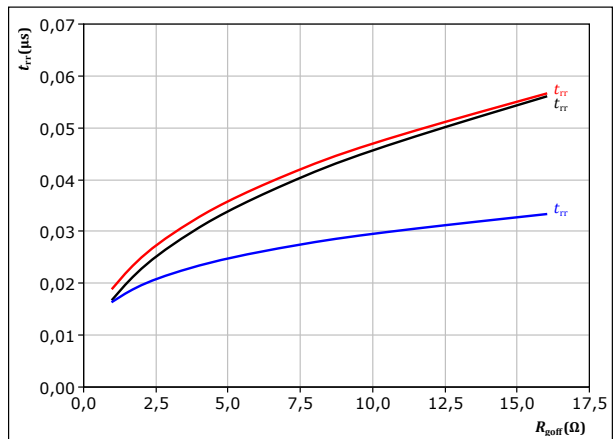


At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 $T_j:$ — 25 °C
— 125 °C
— 150 °C

figure 19.

MOSFET

Typical reverse recovery time as a function of turn off gate resistor
 $t_{rr} = f(R_{goff})$



At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $I_D = 95$ A
 $T_j:$ — 25 °C
— 125 °C
— 150 °C



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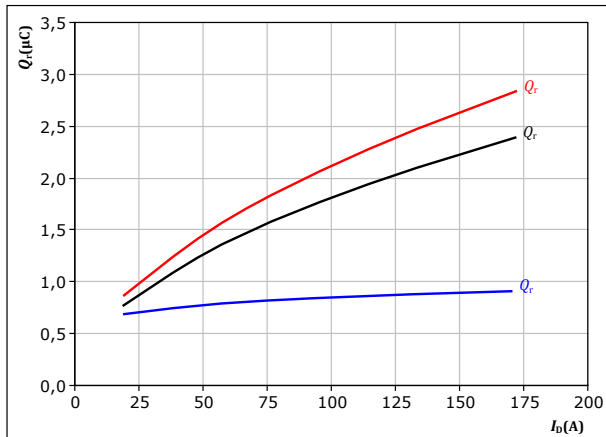
Buck Switching Characteristics

figure 20.

MOSFET

Typical recovered charge as a function of drain current

$$Q_r = f(I_D)$$



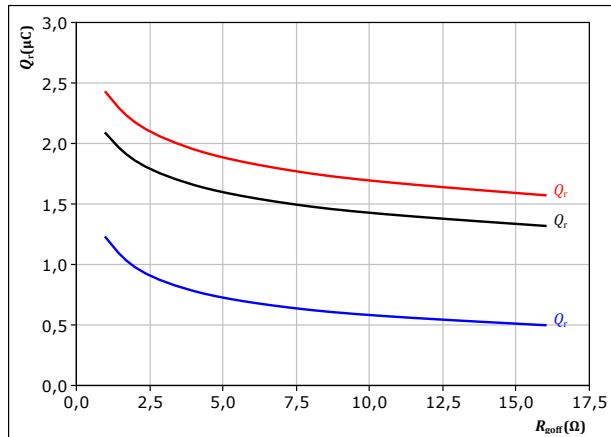
At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 T_j : 25 °C
125 °C
150 °C

figure 21.

MOSFET

Typical recovered charge as a function of turn off gate resistor

$$Q_r = f(R_{goff})$$



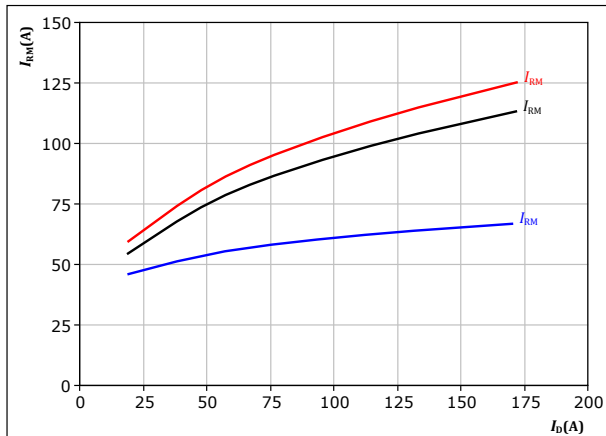
At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $I_D = 95$ A
 T_j : 25 °C
125 °C
150 °C

figure 22.

MOSFET

Typical peak reverse recovery current as a function of drain current

$$I_{RM} = f(I_D)$$



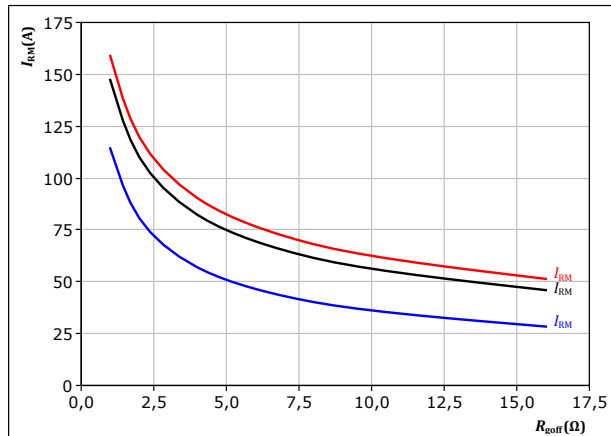
At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 T_j : 25 °C
125 °C
150 °C

figure 23.

MOSFET

Typical peak reverse recovery current as a function of turn off gate resistor

$$I_{RM} = f(R_{goff})$$



At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $I_D = 95$ A
 T_j : 25 °C
125 °C
150 °C



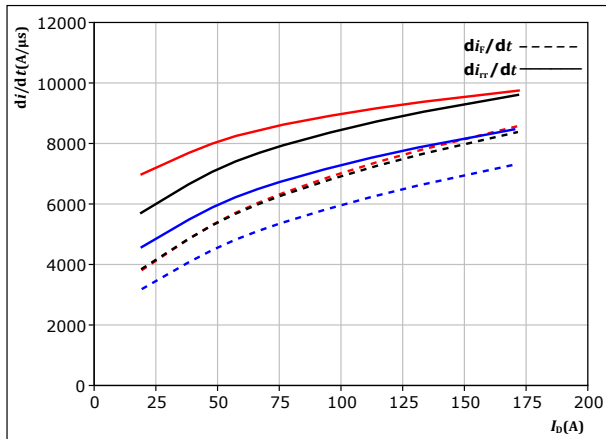
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Buck Switching Characteristics

figure 24. MOSFET

Typical rate of fall of forward and reverse recovery current as a function of drain current
 $di_f/dt, di_r/dt = f(I_D)$

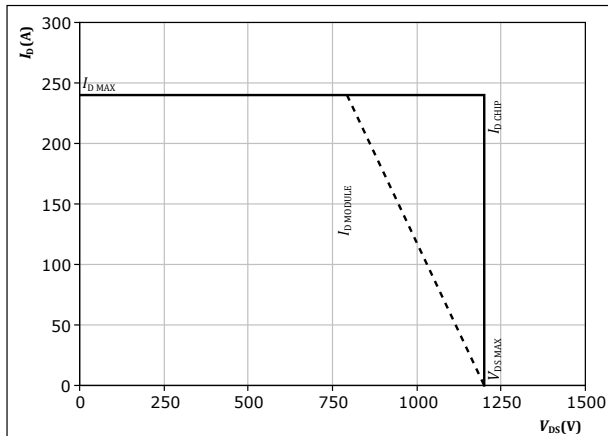


At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 $T_j = 25$ °C
 $T_j = 125$ °C
 $T_j = 150$ °C

figure 26. MOSFET

Reverse bias safe operating area

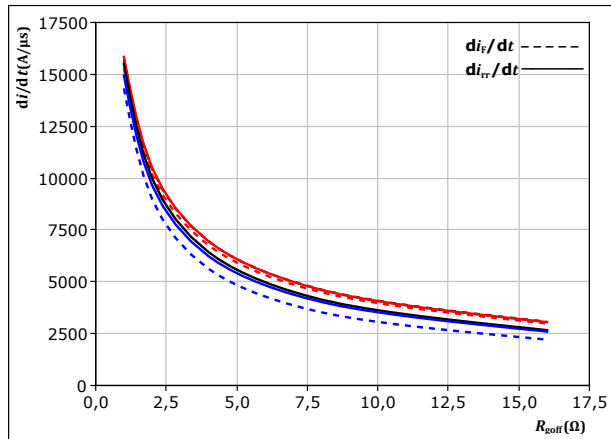
$I_D = f(V_{DS})$



At $T_j = 150$ °C
 $R_{gon} = 4$ Ω
 $R_{goff} = 4$ Ω

figure 25. MOSFET

Typical rate of fall of forward and reverse recovery current as a function of turn off gate resistor
 $di_f/dt, di_r/dt = f(R_{goff})$



At $V_{DS} = 350$ V
 $V_{GS} = -4/15$ V
 $I_D = 95$ A
 $T_j = 25$ °C
 $T_j = 125$ °C
 $T_j = 150$ °C



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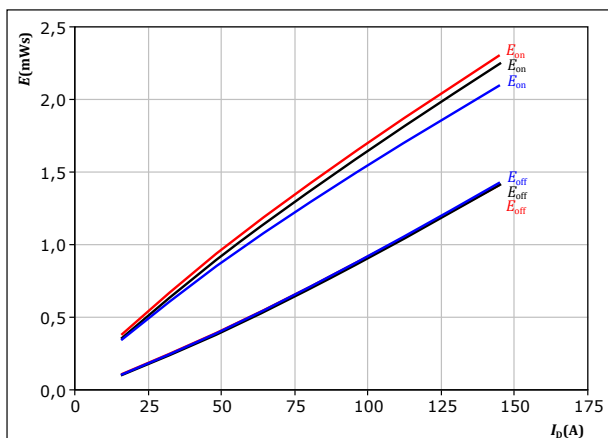
Boost Switching Characteristics

figure 27.

MOSFET

Typical switching energy losses as a function of drain current

$$E = f(I_D)$$



With an inductive load at

$V_{DS} = 600 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $R_{gon} = 4 \text{ } \Omega$
 $R_{goff} = 4 \text{ } \Omega$

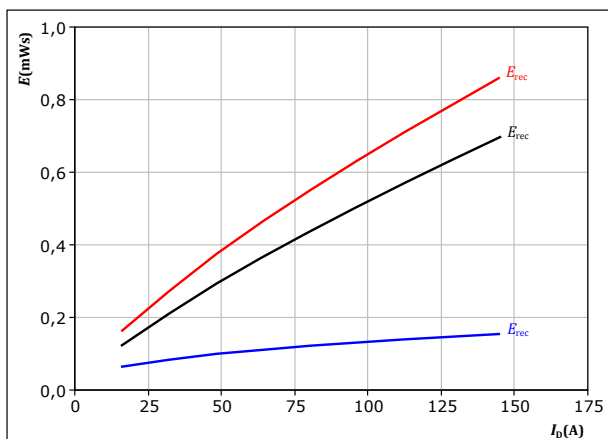
T_j :
— 25 °C
— 125 °C
— 150 °C

figure 29.

MOSFET

Typical reverse recovered energy loss as a function of drain current

$$E_{rec} = f(I_D)$$



With an inductive load at

$V_{DS} = 600 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $R_{gon} = 4 \text{ } \Omega$

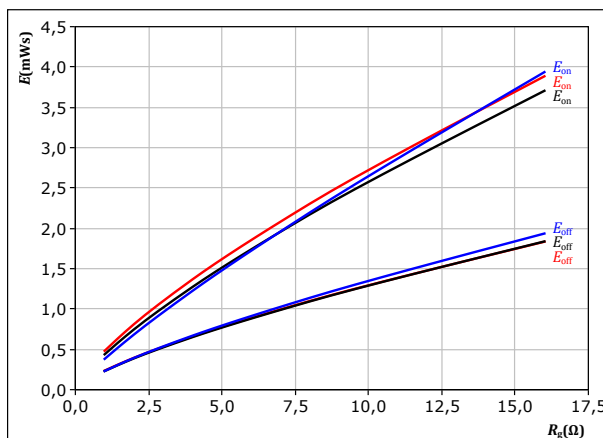
T_j :
— 25 °C
— 125 °C
— 150 °C

figure 28.

MOSFET

Typical switching energy losses as a function of gate resistor

$$E = f(R_g)$$



With an inductive load at

$V_{DS} = 600 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $I_D = 80 \text{ A}$

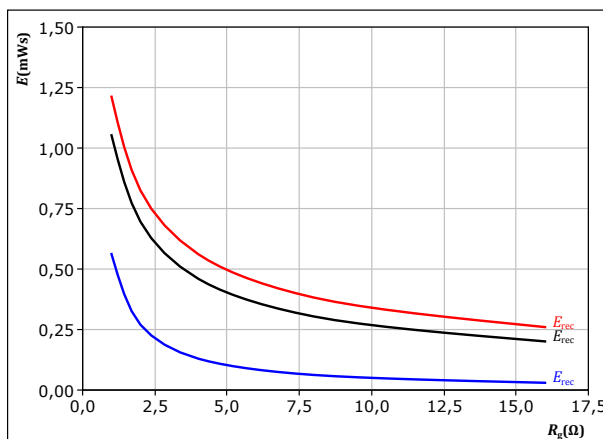
T_j :
— 25 °C
— 125 °C
— 150 °C

figure 30.

MOSFET

Typical reverse recovered energy loss as a function of gate resistor

$$E_{rec} = f(R_g)$$



With an inductive load at

$V_{DS} = 600 \text{ V}$
 $V_{GS} = -4/15 \text{ V}$
 $I_D = 80 \text{ A}$

T_j :
— 25 °C
— 125 °C
— 150 °C



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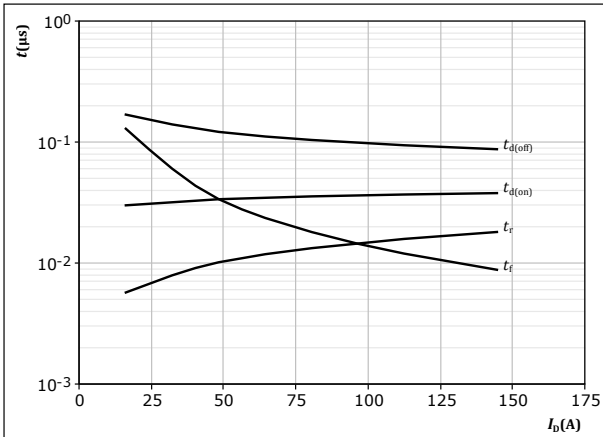
datasheet

Boost Switching Characteristics

figure 31.

MOSFET

Typical switching times as a function of drain current
 $t = f(I_D)$



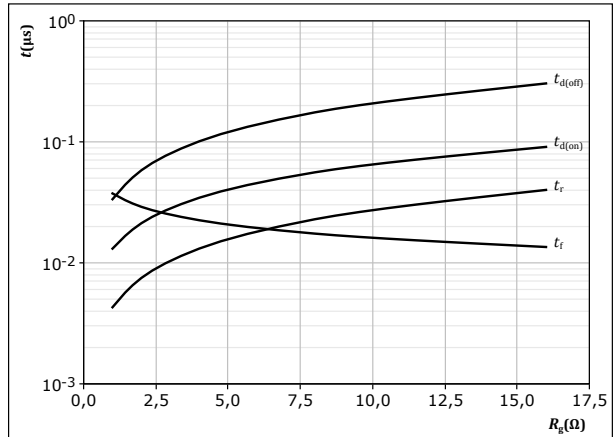
With an inductive load at

$T_j = 150$ °C
 $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 $R_{goff} = 4$ Ω

figure 32.

MOSFET

Typical switching times as a function of gate resistor
 $t = f(R_g)$



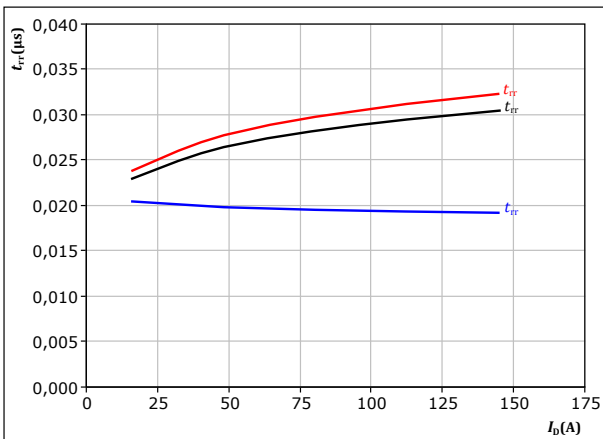
With an inductive load at

$T_j = 150$ °C
 $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $I_D = 80$ A

figure 33.

MOSFET

Typical reverse recovery time as a function of drain current
 $t_{rr} = f(I_D)$

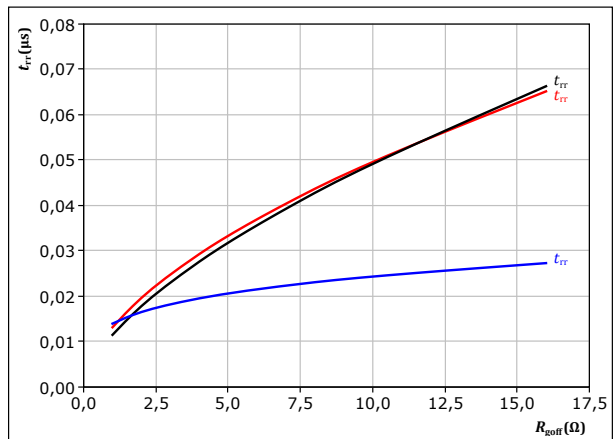


At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 $T_j: 25$ °C (blue), 125 °C (black), 150 °C (red)

figure 34.

MOSFET

Typical reverse recovery time as a function of turn off gate resistor
 $t_{rr} = f(R_{goff})$



At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $I_D = 80$ A
 $T_j: 25$ °C (blue), 125 °C (black), 150 °C (red)



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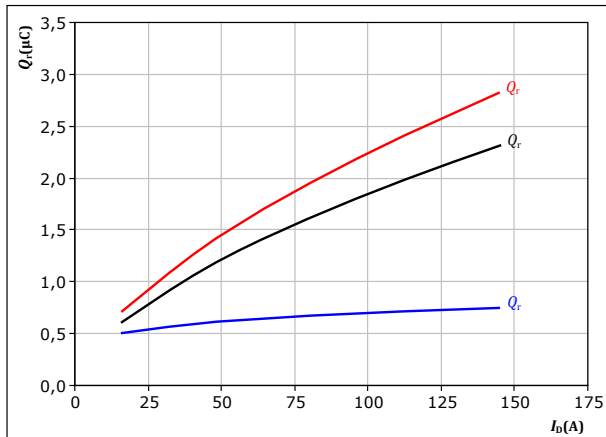
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Boost Switching Characteristics

figure 35. MOSFET

Typical recovered charge as a function of drain current

$$Q_r = f(I_D)$$

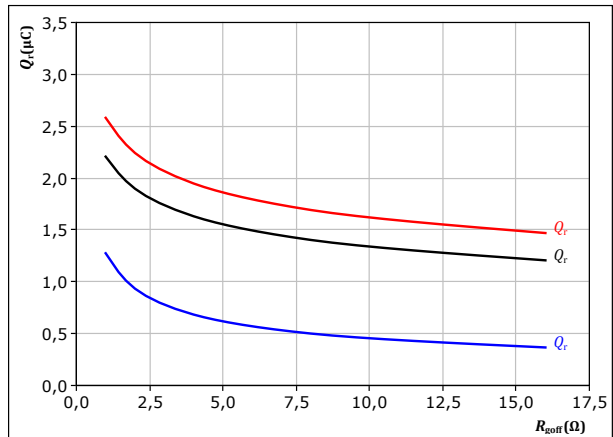


At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 T_j : 25 °C
125 °C
150 °C

figure 36. MOSFET

Typical recovered charge as a function of turn off gate resistor

$$Q_r = f(R_{goff})$$

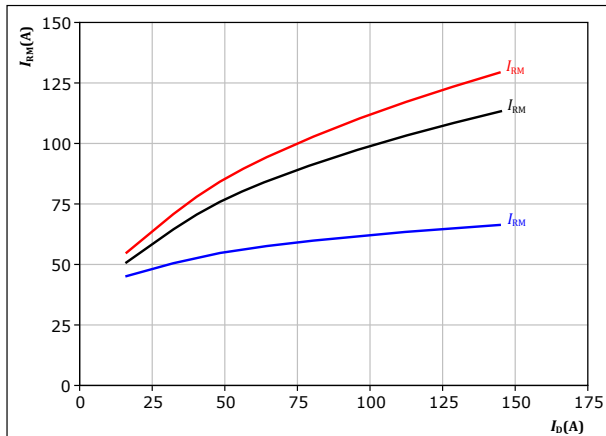


At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $I_D = 80$ A
 T_j : 25 °C
125 °C
150 °C

figure 37. MOSFET

Typical peak reverse recovery current as a function of drain current

$$I_{RM} = f(I_D)$$

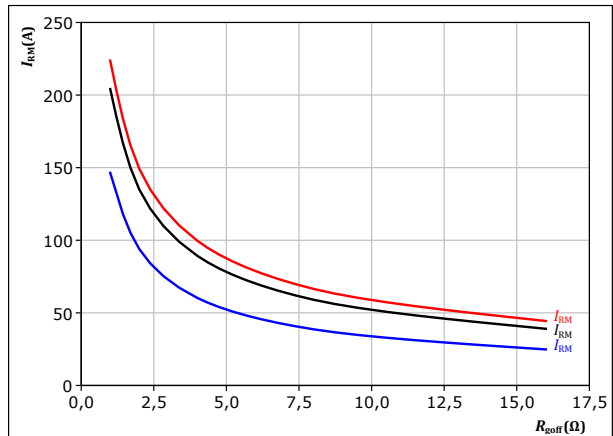


At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 T_j : 25 °C
125 °C
150 °C

figure 38. MOSFET

Typical peak reverse recovery current as a function of turn off gate resistor

$$I_{RM} = f(R_{goff})$$



At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $I_D = 80$ A
 T_j : 25 °C
125 °C
150 °C



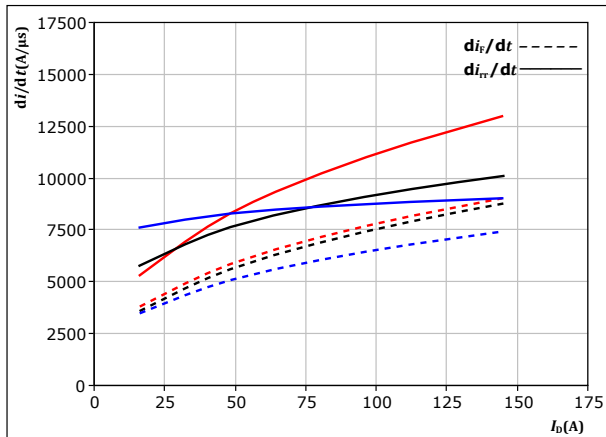
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Boost Switching Characteristics

figure 39. MOSFET

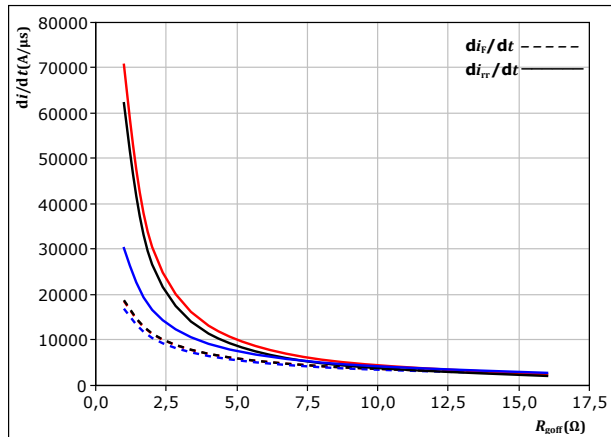
Typical rate of fall of forward and reverse recovery current as a function of drain current
 $di_f/dt, di_r/dt = f(I_D)$



At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $R_{gon} = 4$ Ω
 $T_j = 25$ °C
125 °C
150 °C

figure 40. MOSFET

Typical rate of fall of forward and reverse recovery current as a function of turn off gate resistor
 $di_f/dt, di_r/dt = f(R_{goff})$

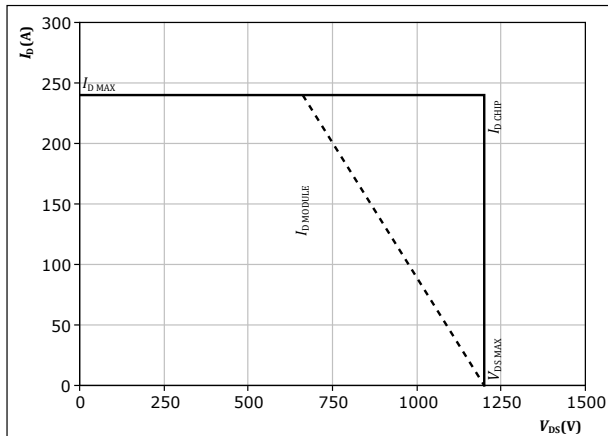


At $V_{DS} = 600$ V
 $V_{GS} = -4/15$ V
 $I_D = 80$ A
 $T_j = 25$ °C
125 °C
150 °C

figure 41. MOSFET

Reverse bias safe operating area

$I_D = f(V_{DS})$



At $T_j = 150$ °C
 $R_{gon} = 4$ Ω
 $R_{goff} = 4$ Ω



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Switching Definitions

figure 42. MOSFET

Turn-off Switching Waveforms & definition of t_{doff} , t_{Eoff} (t_{Eoff} = integrating time for E_{off})

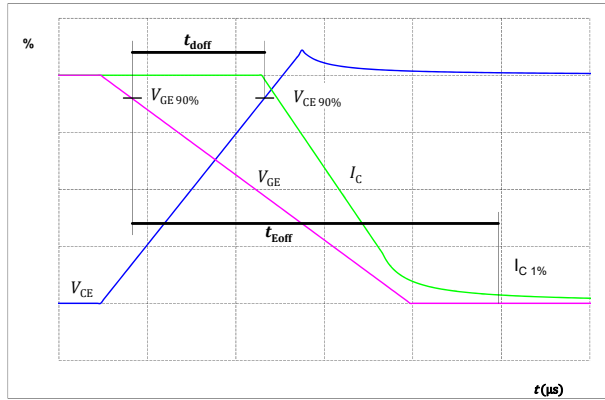


figure 43. MOSFET

Turn-on Switching Waveforms & definition of t_{don} , t_{Eon} (t_{Eon} = integrating time for E_{on})

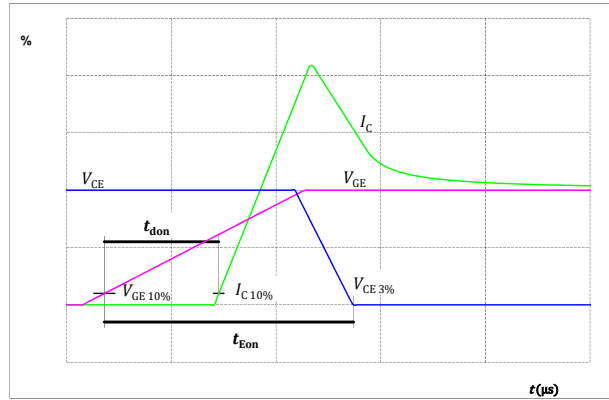


figure 44. MOSFET

Turn-off Switching Waveforms & definition of t_f

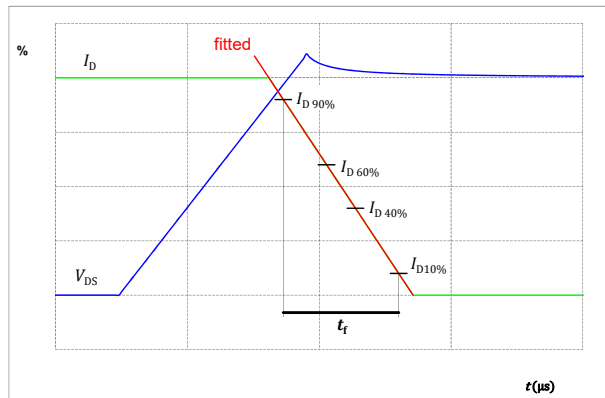
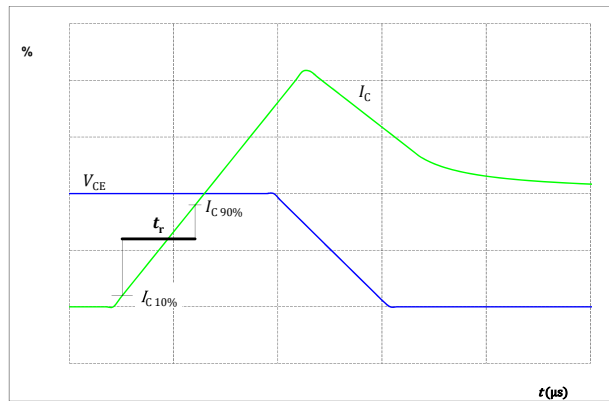


figure 45. MOSFET

Turn-on Switching Waveforms & definition of t_r





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Switching Definitions

figure 46.

FWD

Turn-off Switching Waveforms & definition of t_{tr}

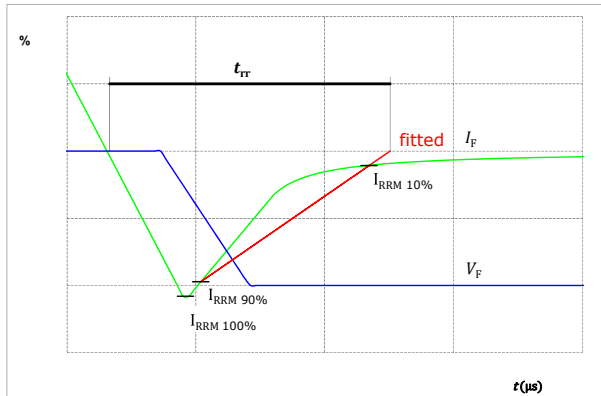


figure 47.

FWD

Turn-on Switching Waveforms & definition of t_{Qr} (t_{Qr} = integrating time for Q_r)

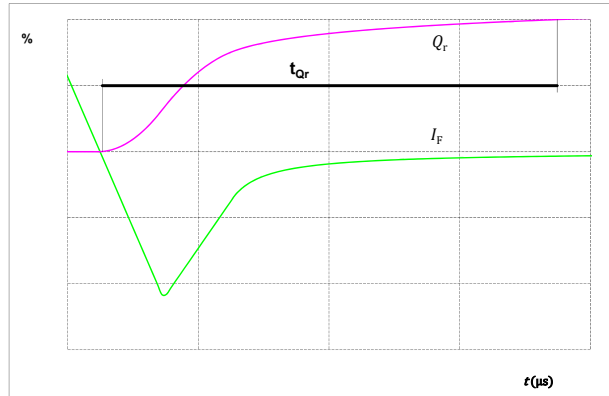
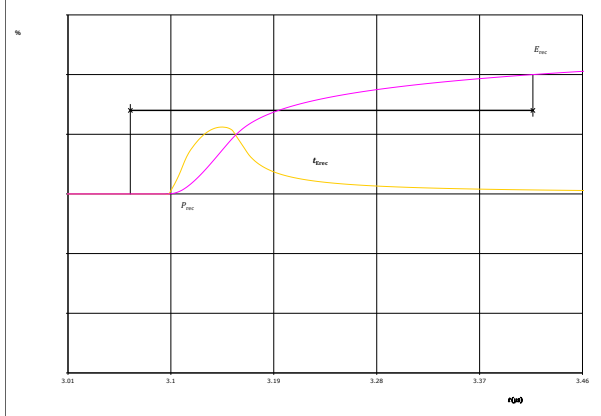


figure 48.

FWD

Turn-on Switching Waveforms & definition of t_{Erec} (t_{Erec} = integrating time for E_{rec})





datasheet

Ordering Code	
Version	Ordering Code
Without thermal paste	10-EY12NMA011ME30-LS28F18T
With thermal paste (3,4 W/mK, PSX-P7)	10-EY12NMA011ME30-LS28F18T-/3/

Marking							
	Text	Name		Date code	UL & VIN	Lot	Serial
		NN-NNNNNNNNNNNNN- TTTTTIVV		WWYY	UL VIN	LLLLL	SSSS
		Datamatrix	Type&Ver	Lot number	Serial	Date code	
TTTTTIVV			LLLLL	SSSS	WWYY		

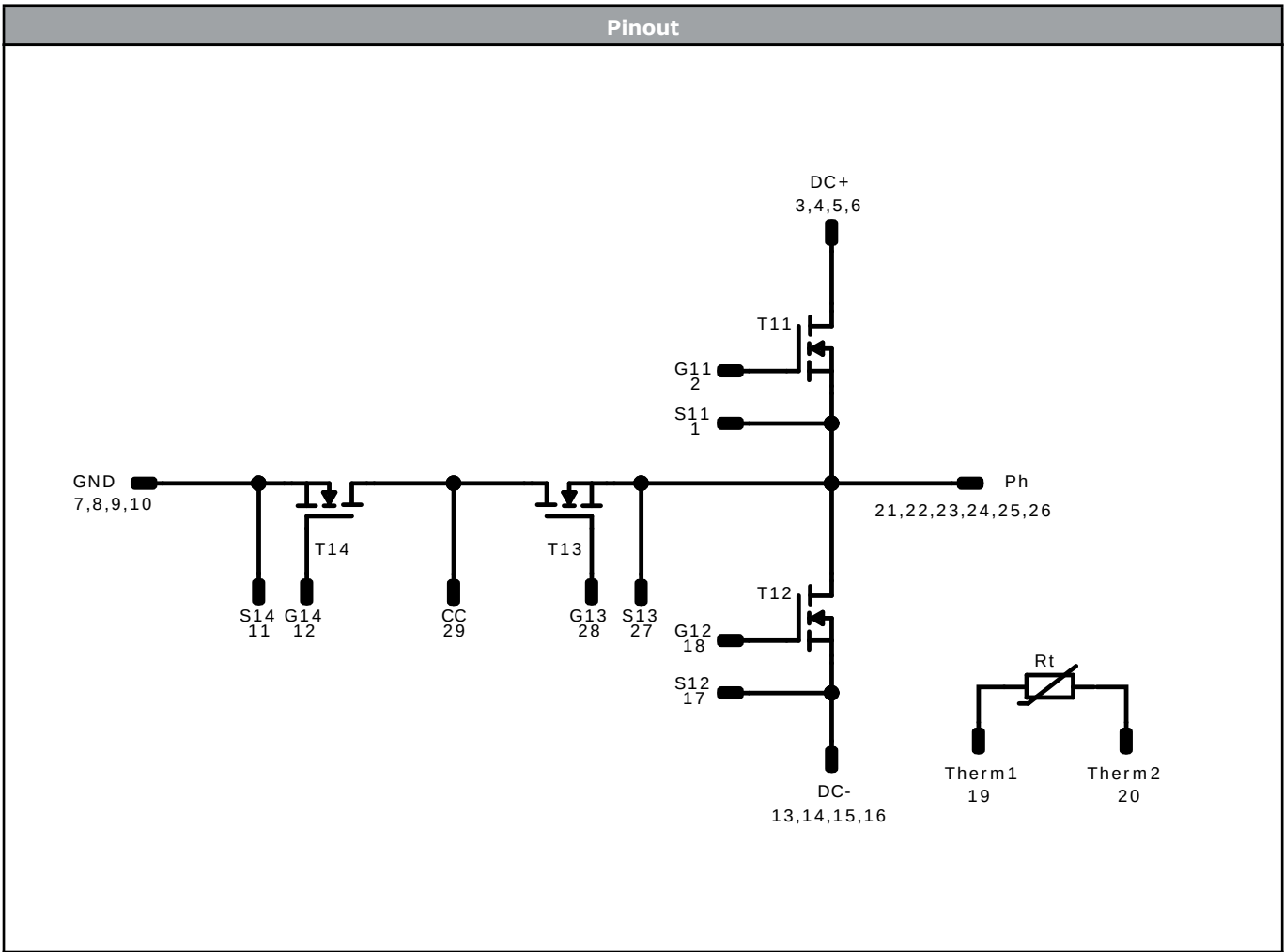
Pin table [mm]			
Pin	X	Y	Function
1	32	3,2	S11
2	32	0	G11
3	3,2	0	DC+
4	0	0	DC+
5	3,2	3,2	DC+
6	0	3,2	DC+
7	3,2	12,8	GND
8	0	12,8	GND
9	3,2	16	GND
10	0	16	GND
11	0	28,8	S14
12	0	32	G14
13	0	38,4	DC-
14	0	41,6	DC-
15	0	44,8	DC-
16	0	48	DC-
17	19,2	48	S12
18	22,4	48	G12
19	32	48	Therm1
20	32	44,8	Therm2
21	32	38,4	Ph
22	32	35,2	Ph
23	32	32	Ph
24	32	19,2	Ph
25	32	16	Ph
26	32	12,8	Ph
27	16	19,2	S13
28	12,8	19,2	G13
29	16	28,8	CC

center of press-fit pin head
pin head type TP PTH plated through-hole $\Phi 1\text{mm} \pm 0,09 / -0,06$
for further PCB design rules refer to the latest handling instruction

Tolerance of prepositions ±0,5mm at the end of pins
Dimension of coordinate axis is only offset without tolerance



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Identification					
ID	Component	Voltage	Current	Function	Comment
T11, T12	MOSFET	1200 V	10,67 mΩ	Buck Switch	
T13, T14	MOSFET	1200 V	10,67 mΩ	Boost Switch	
Rt	Thermistor			Thermistor	



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datasheet

Packaging instruction				
Standard packaging quantity (SPQ) 100	>SPQ	Standard	<SPQ	Sample

Handling instruction
Handling instructions for <i>flow</i> E2 packages see vincotech.com website.

Package data
Package data for <i>flow</i> E2 packages see vincotech.com website.

Vincotech thermistor reference
See Vincotech thermistor reference table at vincotech.com website.

UL recognition and file number
This device is certified according to UL 1557 standard, UL file number E192116. For more information see vincotech.com website.



Document No.:	Date:	Modification:	Pages
10-EY12NMA011ME30-LS28F18T-D1-14	12 Oct. 2021		

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.