



fastPACK 0 SiC

900 V / 33 mΩ

Features

- 900V SiC MOS
- Switching frequency up to 400kHz
- Suitable for hard switching/soft switching
- Increased power density
- NTC

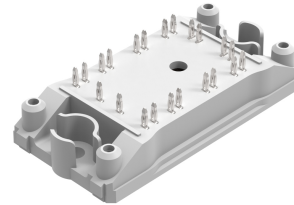
Target applications

- Power Supply
- Special Application
- Welding & Cutting

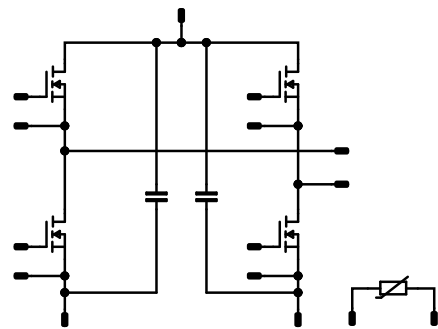
Types

- 10-PC094PB035ME02-L629F36Y

flow 0 12 mm housing



Schematic





Vincotech

Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
H-Bridge Switch - Lo side				
Drain-source voltage	V_{DSS}		900	V
Drain current	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	40	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	180	A
Avalanche energy, single pulse	E_{AS}	$V_{DD} = 50\text{ V}$ $I_D = 44$	220	mJ
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	76	W
Gate-source voltage	V_{GSS}		-4 / 15	V
Maximum Junction Temperature	T_{jmax}		175	°C

H-Bridge Switch - Hi side

Drain-source voltage	V_{DSS}		900	V
Drain current	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	40	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	180	A
Avalanche energy, single pulse	E_{AS}	$V_{DD} = 50\text{ V}$ $I_D = 44$	220	mJ
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	76	W
Gate-source voltage	V_{GSS}		-4 / 15	V
Maximum Junction Temperature	T_{jmax}		175	°C

Capacitor (DC)

Maximum DC voltage	V_{MAX}		1000	V
Operation Temperature	T_{op}		-55 ... 125	°C



Vincotech

10-PC094PB035ME02-L629F36Y
datasheet

Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
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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			min. 12,7	mm
Clearance			9,6	mm
Comparative Tracking Index	CTI		≥ 200	

*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		

H-Bridge Switch - Lo side

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		76	25 125 150		34 42 47	39	mΩ
Gate-source threshold voltage	$V_{GS(th)}$		0		0,005	25	1,7	2,4	3,5	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		20	500	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	0	0	25		2	200	μA
Internal gate resistance	r_g							2,35		Ω
Gate charge	Q_g							60,8		nC
Gate to source charge	Q_{GS}		-4/15	400	40	25		15		
Gate to drain charge	Q_{GD}							24		
Short-circuit input capacitance	C_{iss}							1320		pF
Short-circuit output capacitance	C_{oss}	$f = 1$ Mhz	0	600	0	25		120		
Reverse transfer capacitance	C_{rss}							8		
Diode forward voltage	V_{SD}		0		0	25		4,8		V

Thermal

Thermal resistance junction to sink*	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						1,25		K/W
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*Only valid with pre-applied Vincotech thermal interface material.

Dynamic

Turn-on delay time	$t_{d(on)}$					25 125 150		12,8 12,8 13,6		ns
Rise time	t_r					25 125 150		5,4 5 5		ns
Turn-off delay time	$t_{d(off)}$					25 125 150		42,6 42,8 43,4		ns
Fall time	t_f					25 125 150		10,9 11,7 10,8		ns
Turn-on energy (per pulse)	E_{on}	$Q_{tFWD} = 0,455$ μC $Q_{tFWD} = 0,875$ μC $Q_{tFWD} = 0,825$ μC				25 125 150		0,459 0,447 0,471		mWs
Turn-off energy (per pulse)	E_{off}					25 125 150		0,082 0,055 0,048		mWs



Vincotech

Characteristic Values

Parameter	Symbol	Conditions				Value			Unit	
		V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V]	I_C [A] I_D [A]	T_j [°C]	Min	Typ	Max		
Dynamic										
Peak recovery current	I_{RRM}					25 125 150		54 58 63		A
Reverse recovery time	t_{rr}					25 125 150		15 15 15		ns
Recovered charge	Q_r	$di/dt = 7344$ A/ μ s $di/dt = 7855$ A/ μ s $di/dt = 8439$ A/ μ s	-5/15	600	40	25 125 150		0,455 0,875 0,825		μ C
Reverse recovered energy	E_{rec}					25 125 150		0,028 0,196 0,106		mWs
Peak rate of fall of recovery current	$(di_{rr}/dt)_{max}$					25 125 150		11049 13683 15876		A/ μ s



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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		

H-Bridge Switch - Hi side

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		76	25 125 150		34 42 47	39	mΩ
Gate-source threshold voltage	$V_{GS(th)}$		0		0,005	25	1,7	2,4	3,5	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		20	500	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	0	0	25		2	200	μA
Internal gate resistance	r_g							2,35		Ω
Gate charge	Q_g							60,8		nC
Gate to source charge	Q_{GS}		-4/15	400	40	25		15		
Gate to drain charge	Q_{GD}							24		
Short-circuit input capacitance	C_{iss}							1320		pF
Short-circuit output capacitance	C_{oss}	$f = 1$ Mhz	0	600	0	25		120		
Reverse transfer capacitance	C_{rss}							8		
Diode forward voltage	V_{SD}		0		0	25		4,8		V

Thermal

Thermal resistance junction to sink*	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						1,25		K/W
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*Only valid with pre-applied Vincotech thermal interface material.

Dynamic

Turn-on delay time	$t_{d(on)}$					25 125 150		12,8 12,8 13,6		ns
Rise time	t_r					25 125 150		5,4 5 5		ns
Turn-off delay time	$t_{d(off)}$					25 125 150		42,6 42,8 43,4		ns
Fall time	t_f					25 125 150		10,9 11,7 10,8		ns
Turn-on energy (per pulse)	E_{on}	$Q_{tFWD}=0,455$ μC $Q_{tFWD}=0,875$ μC $Q_{tFWD}=0,825$ μC				25 125 150		0,459 0,447 0,471		mWs
Turn-off energy (per pulse)	E_{off}					25 125 150		0,082 0,055 0,048		mWs



Vincotech

Characteristic Values

Parameter	Symbol	Conditions					Value			Unit
		V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{DS} [V]	I_C [A] I_D [A]	T_j [°C]	Min	Typ	Max		
Dynamic										
Peak recovery current	I_{RRM}					25 125 150		54 58 63		A
Reverse recovery time	t_{rr}					25 125 150		15 15 15		ns
Recovered charge	Q_r	$di/dt = 7344$ A/ μ s $di/dt = 7855$ A/ μ s $di/dt = 8439$ A/ μ s	-5/15	600	40	25 125 150		0,455 0,875 0,825		μ C
Reverse recovered energy	E_{rec}					25 125 150		0,028 0,196 0,106		mWs
Peak rate of fall of recovery current	$(di_{rr}/dt)_{max}$					25 125 150		11049 13683 15876		A/ μ s



Vincotech

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		

Capacitor (DC)

Static

Capacitance	C							94		nF
Tolerance							-20		20	%
Dissipation factor		$f = 1$ kHz				25		25		%

Thermistor

Static

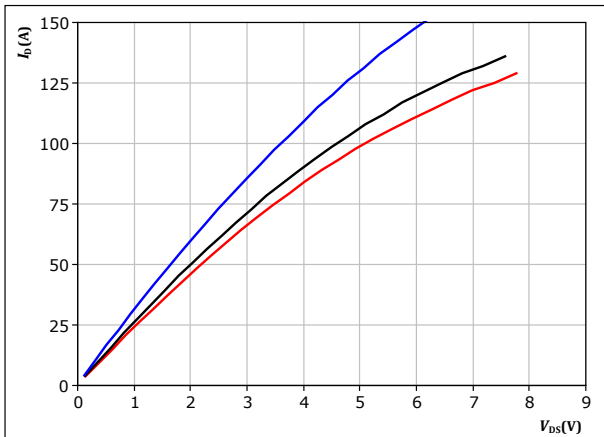
Rated resistance	R					25		22		k Ω
Deviation of R_{100}	$A_{R/R}$	$R_{100} = 1484 \Omega$				100	-5		5	%
Power dissipation	P							5		mW
Power dissipation constant	d					25		1,5		mW/K
B-value	$B_{(25/50)}$	Tol. ± 1 %						3962		K
B-value	$B_{(25/100)}$	Tol. ± 1 %						4000		K
Vincotech Thermistor Reference									I	



H-Bridge Switch - Lo side Characteristics

figure 1. MOSFET

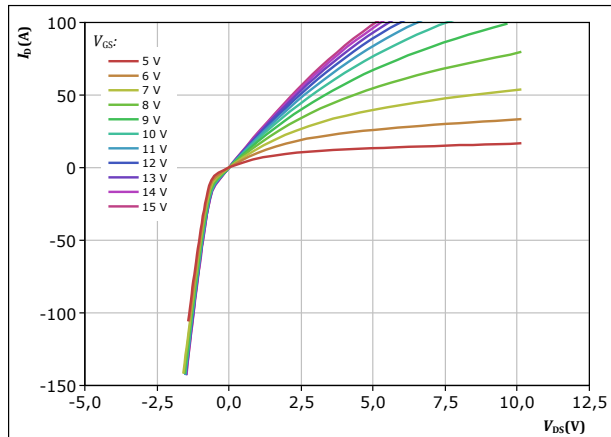
Typical output characteristics
 $I_D = f(V_{DS})$



$t_p = 250 \mu s$
 $V_{GS} = 15 V$
 $T_F:$ 25 °C, 125 °C, 150 °C

figure 2. MOSFET

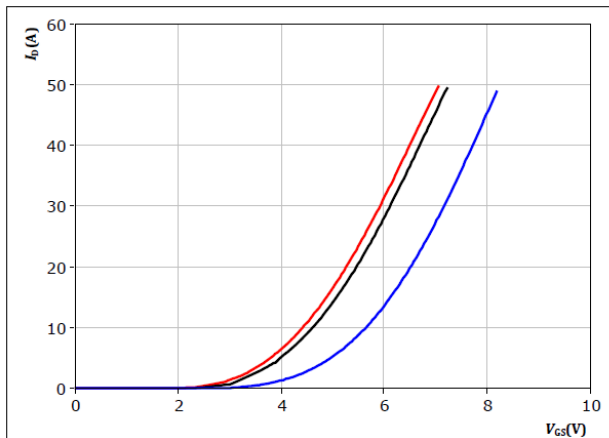
Typical output characteristics
 $I_D = f(V_{DS})$



$t_p = 250 \mu s$
 $T_F = 150 \text{ °C}$
 V_{GS} from 5 V to 15 V in steps of 1 V

figure 3. MOSFET

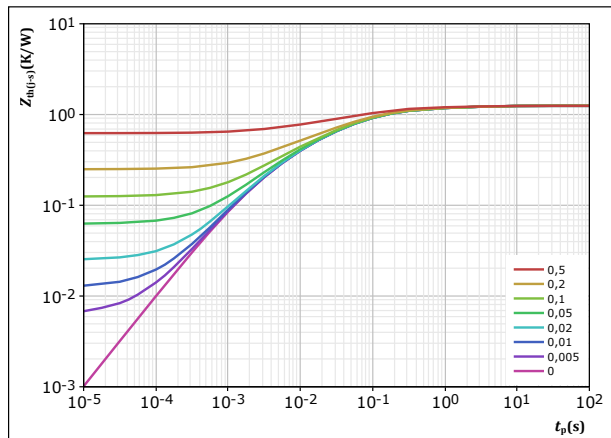
Typical transfer characteristics
 $I_D = f(V_{GS})$



$t_p = 250 \mu s$
 $V_{DS} = 10 V$
 $T_F:$ 25 °C, 125 °C, 150 °C

figure 4. MOSFET

Transient thermal impedance as a function of pulse width
 $Z_{th(j-s)} = f(t_p)$



$D = t_p / T$
 $R_{th(j-s)} = 1,247 \text{ K/W}$
MOSFET thermal model values

R (K/W)	τ (s)
6,45E-02	3,56E+00
1,36E-01	5,08E-01
4,22E-01	9,62E-02
3,45E-01	2,46E-02
2,11E-01	5,94E-03
6,79E-02	1,44E-03

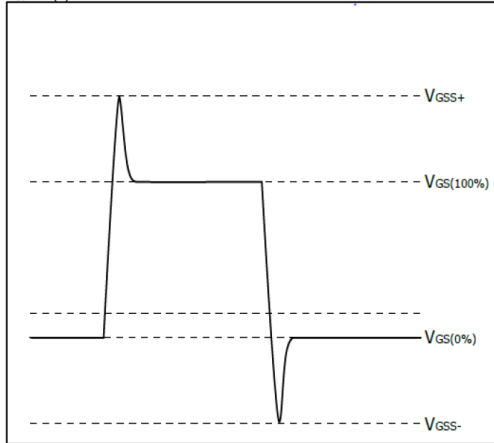


H-Bridge Switch - Lo side Characteristics

figure 5. MOSFET

Gate maximum operating boundaries

$V_{GS} = f(t)$



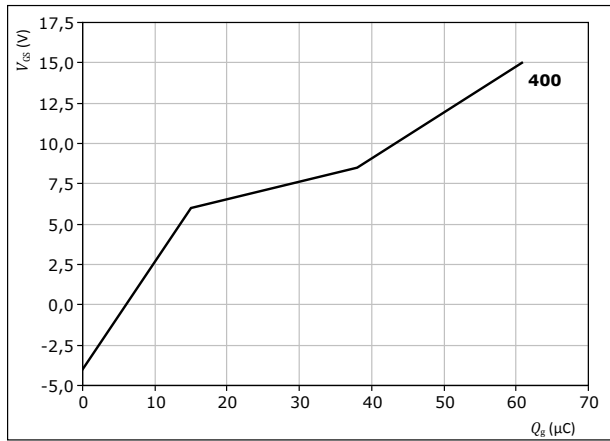
At

$V_{GS+} =$	19 V
$V_{GS(100\%)} =$	15 V
$V_{GS(0\%)} =$	-4 V
$V_{GS-} =$	-8 V

figure 6. MOSFET

Gate voltage vs gate charge

$V_{GS} = f(Q_g)$



At

$I_D =$	40	A
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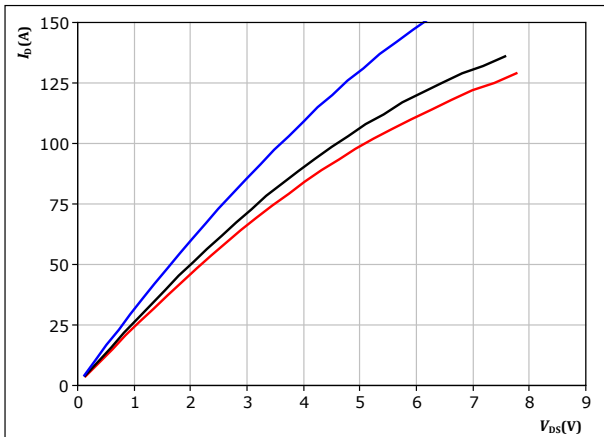


H-Bridge Switch - Hi side Characteristics

figure 7. MOSFET

Typical output characteristics

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

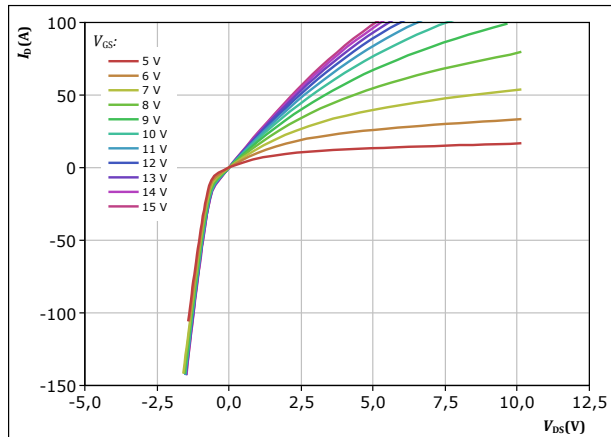


$t_p = 250 \mu s$
 $V_{GS} = 15 V$
 $T_f:$ 25 °C, 125 °C, 150 °C

figure 8. MOSFET

Typical output characteristics

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

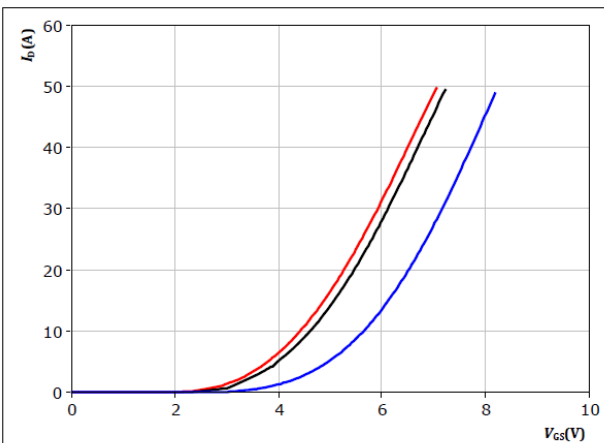


$t_p = 250 \mu s$
 $T_f = 150 \text{ }^\circ\text{C}$
 V_{GS} from 5 V to 15 V in steps of 1 V

figure 9. MOSFET

Typical transfer characteristics

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

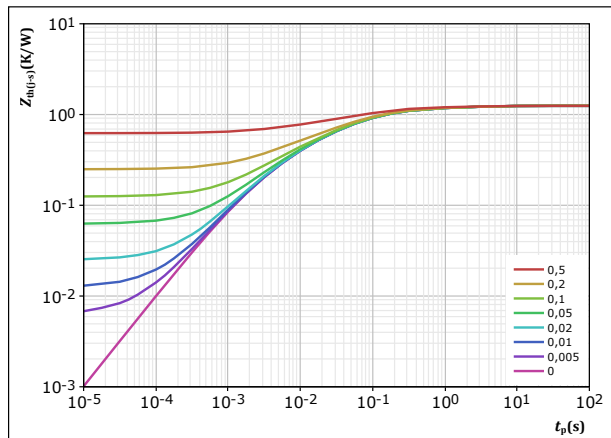


$t_p = 250 \mu s$
 $V_{DS} = 10 V$
 $T_f:$ 25 °C, 125 °C, 150 °C

figure 10. MOSFET

Transient thermal impedance as a function of pulse width

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



$D = t_p / T$
 $R_{th(j-s)} = 1,247 \text{ K/W}$
MOSFET thermal model values

R (K/W)	τ (s)
6,45E-02	3,56E+00
1,36E-01	5,08E-01
4,22E-01	9,62E-02
3,45E-01	2,46E-02
2,11E-01	5,94E-03
6,79E-02	1,44E-03

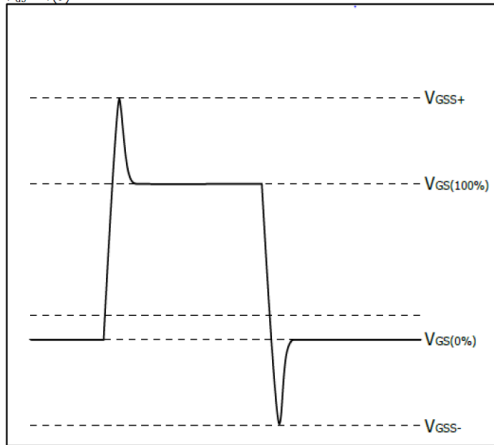


H-Bridge Switch - Hi side Characteristics

figure 11. MOSFET

Gate maximum operating boundaries

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



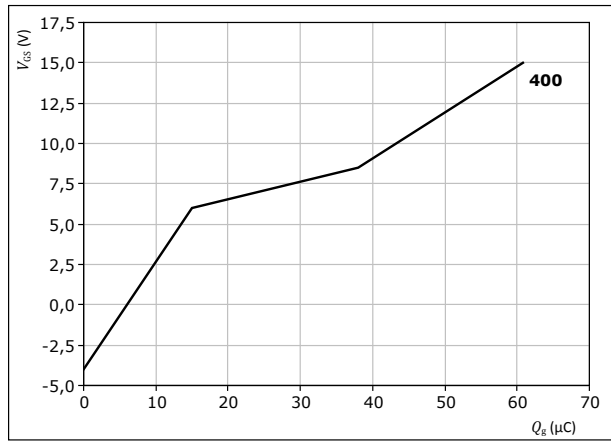
At

$V_{GS+} =$	19 V
$V_{GS(100\%)} =$	15 V
$V_{GS(0\%)} =$	-4 V
$V_{GS-} =$	-8 V

figure 12. MOSFET

Gate voltage vs gate charge

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



At

$I_D =$	40	A
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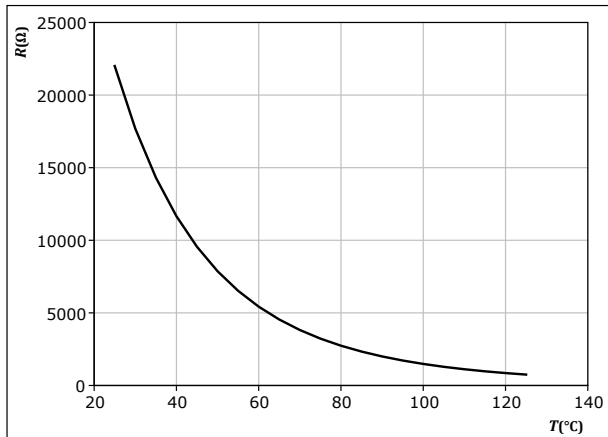


Thermistor Characteristics

figure 13. Thermistor

Typical NTC characteristic as function of temperature

$$R_T = f(T)$$

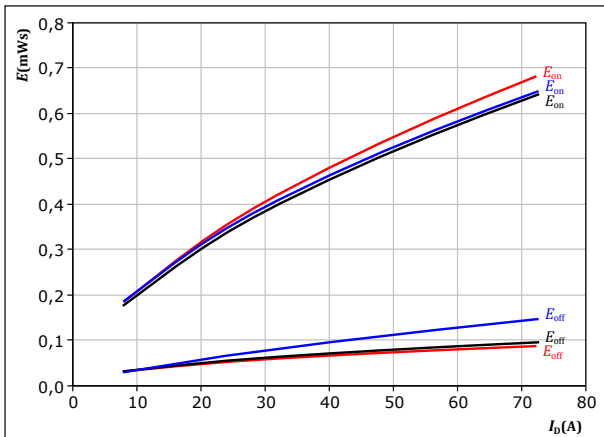




H-Bridge Switching Characteristics - Lo side

figure 14. MOSFET

Typical switching energy losses as a function of drain current
 $E = f(I_D)$

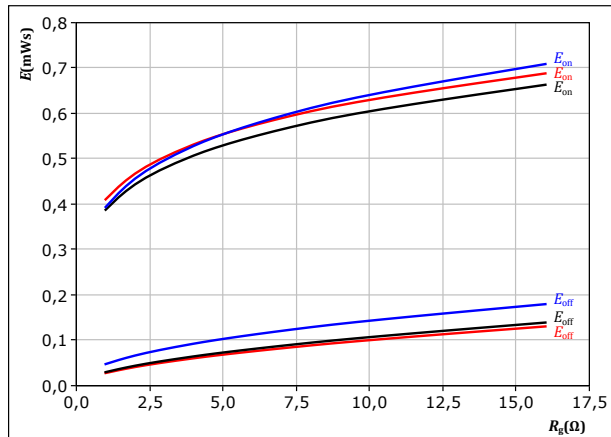


With an inductive load at

$V_{DS} =$	600	V	$T_f:$	— 25 °C
$V_{GS} =$	-5/15	V		— 125 °C
$R_{gon} =$	4	Ω		— 150 °C
$R_{goff} =$	4	Ω		

figure 15. MOSFET

Typical switching energy losses as a function of gate resistor
 $E = f(R_g)$

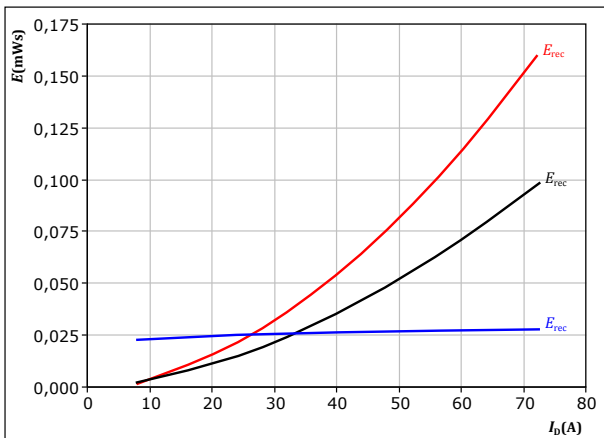


With an inductive load at

$V_{DS} =$	600	V	$T_f:$	— 25 °C
$V_{GS} =$	-5/15	V		— 125 °C
$I_D =$	40	A		— 150 °C

figure 16. MOSFET

Typical reverse recovered energy loss as a function of drain current
 $E_{rec} = f(I_D)$

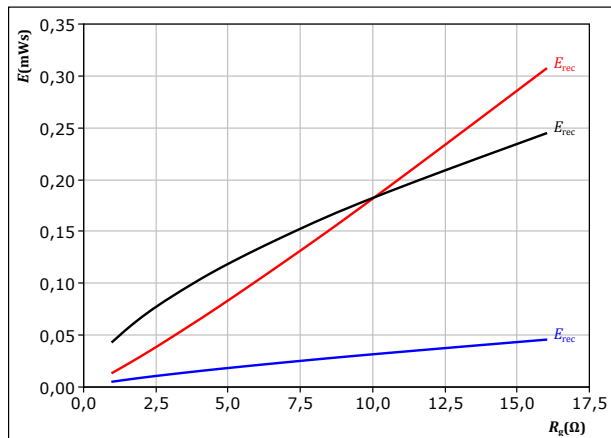


With an inductive load at

$V_{DS} =$	600	V	$T_f:$	— 25 °C
$V_{GS} =$	-5/15	V		— 125 °C
$R_{gon} =$	4	Ω		— 150 °C

figure 17. MOSFET

Typical reverse recovered energy loss as a function of gate resistor
 $E_{rec} = f(R_g)$



With an inductive load at

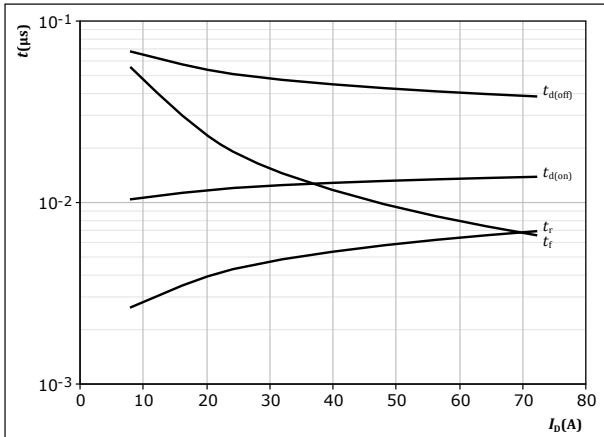
$V_{DS} =$	600	V	$T_f:$	— 25 °C
$V_{GS} =$	-5/15	V		— 125 °C
$I_D =$	40	A		— 150 °C



H-Bridge Switching Characteristics - Lo side

figure 18. MOSFET

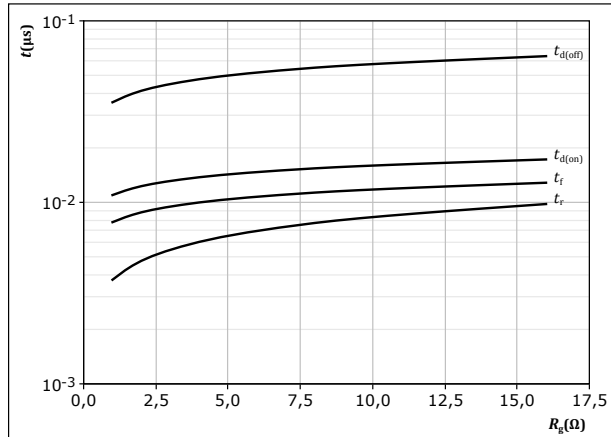
Typical switching times as a function of drain current
 $t = f(I_D)$



With an inductive load at
 $T_j = 150 \text{ }^\circ\text{C}$
 $V_{DS} = 600 \text{ V}$
 $V_{GS} = -5/15 \text{ V}$
 $R_{gon} = 4 \text{ } \Omega$
 $R_{goff} = 4 \text{ } \Omega$

figure 19. MOSFET

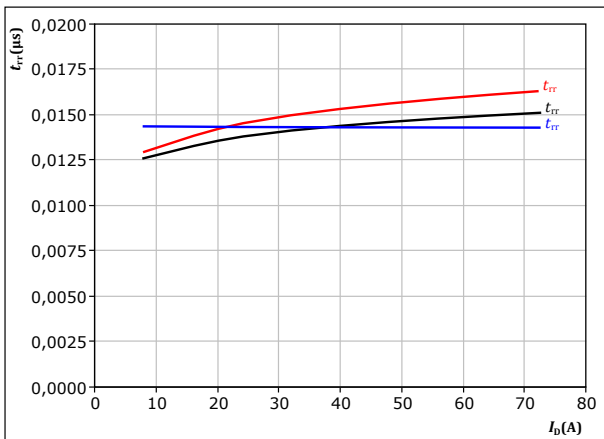
Typical switching times as a function of gate resistor
 $t = f(R_g)$



With an inductive load at
 $T_j = 150 \text{ }^\circ\text{C}$
 $V_{DS} = 600 \text{ V}$
 $V_{GS} = -5/15 \text{ V}$
 $I_D = 40 \text{ A}$

figure 20. MOSFET

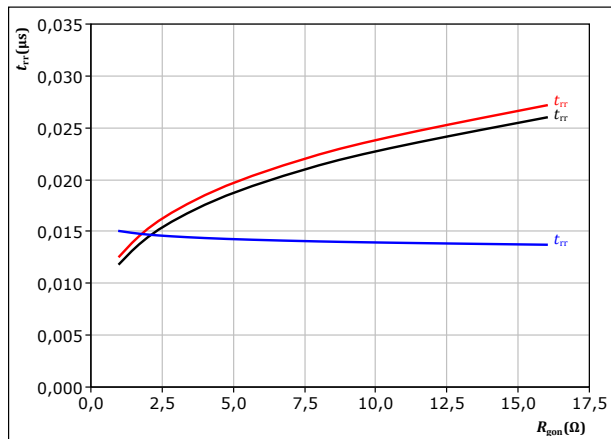
Typical reverse recovery time as a function of drain current
 $t_{rr} = f(I_D)$



At $V_{DS} = 600 \text{ V}$
 $V_{GS} = -5/15 \text{ V}$
 $R_{gon} = 4 \text{ } \Omega$
 $T_j: 25 \text{ }^\circ\text{C}$
 $125 \text{ }^\circ\text{C}$
 $150 \text{ }^\circ\text{C}$

figure 21. MOSFET

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



At $V_{DS} = 600 \text{ V}$
 $V_{GS} = -5/15 \text{ V}$
 $I_D = 40 \text{ A}$
 $T_j: 25 \text{ }^\circ\text{C}$
 $125 \text{ }^\circ\text{C}$
 $150 \text{ }^\circ\text{C}$

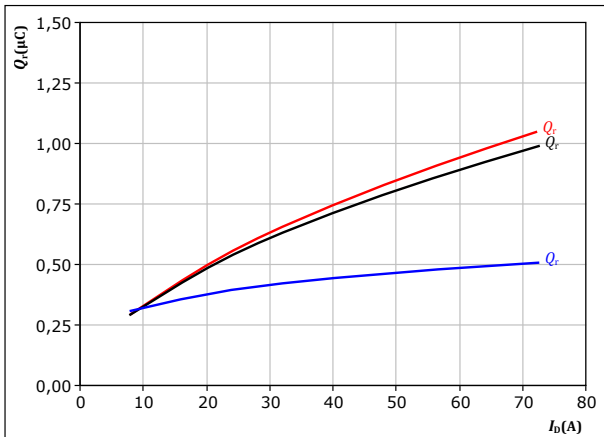


H-Bridge Switching Characteristics - Lo side

figure 22. MOSFET

Typical recovered charge as a function of drain current

$$Q_r = f(I_D)$$



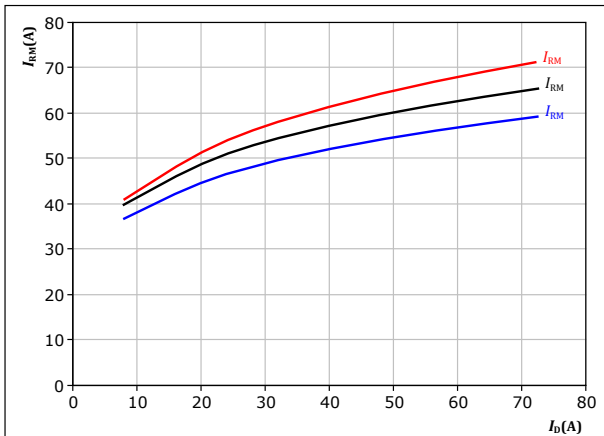
At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{gon} = 4$ Ω

T_j : — 25 °C
 — 125 °C
 — 150 °C

figure 24. MOSFET

Typical peak reverse recovery current as a function of drain current

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



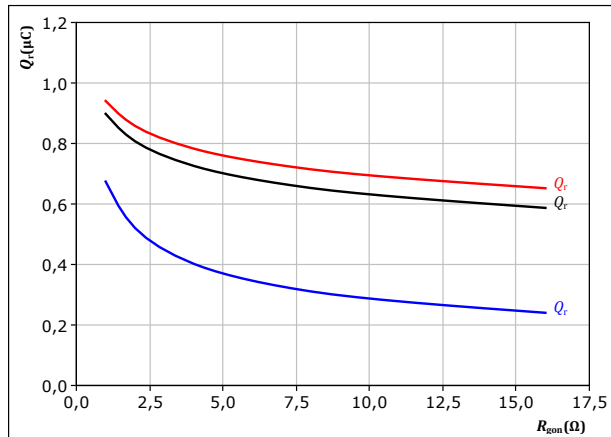
At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{gon} = 4$ Ω

T_j : — 25 °C
 — 125 °C
 — 150 °C

figure 23. MOSFET

Typical recovered charge as a function of turn on gate resistor

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



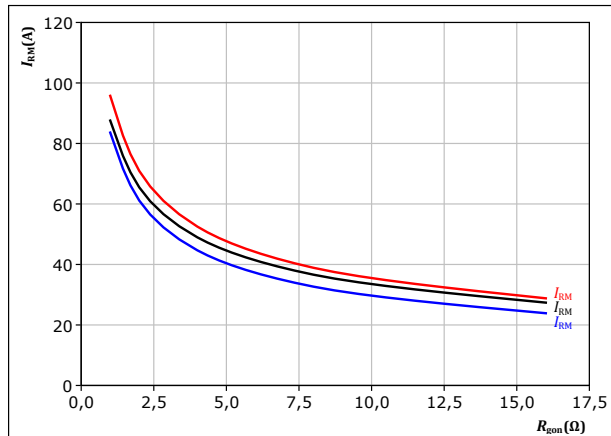
At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A

T_j : — 25 °C
 — 125 °C
 — 150 °C

figure 25. MOSFET

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

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



At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A

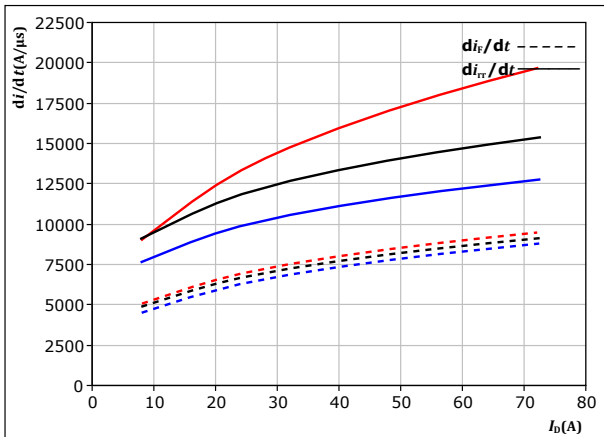
T_j : — 25 °C
 — 125 °C
 — 150 °C



H-Bridge Switching Characteristics - Lo side

figure 26. MOSFET

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

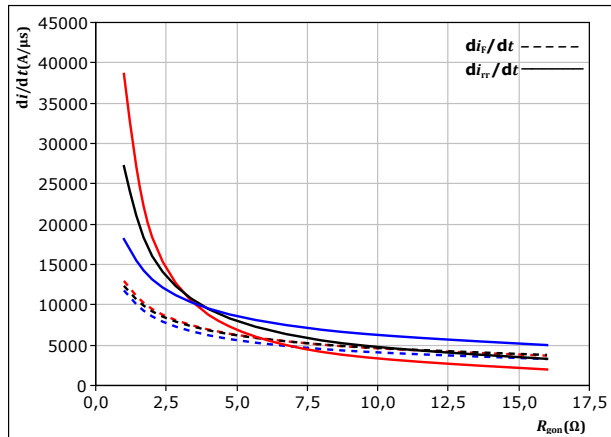


At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{g(on)} = 4$ Ω

T_j : 25 °C
 125 °C
 150 °C

figure 27. MOSFET

Typical rate of fall of forward and reverse recovery current as a function of turn on gate resistor
 $di_f/dt, di_{rr}/dt = f(R_{g(on)})$



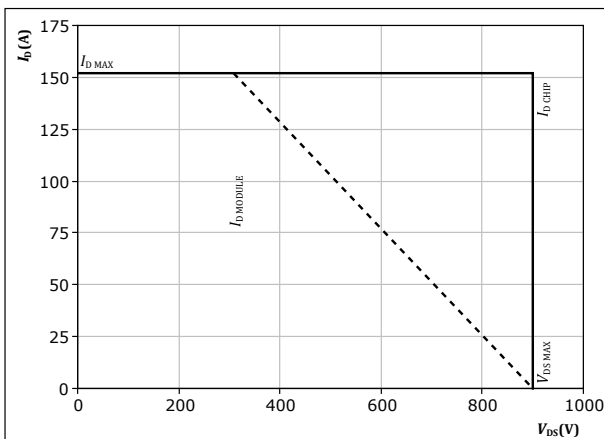
At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A

T_j : 25 °C
 125 °C
 150 °C

figure 28. MOSFET

Reverse bias safe operating area

$I_D = f(V_{DS})$



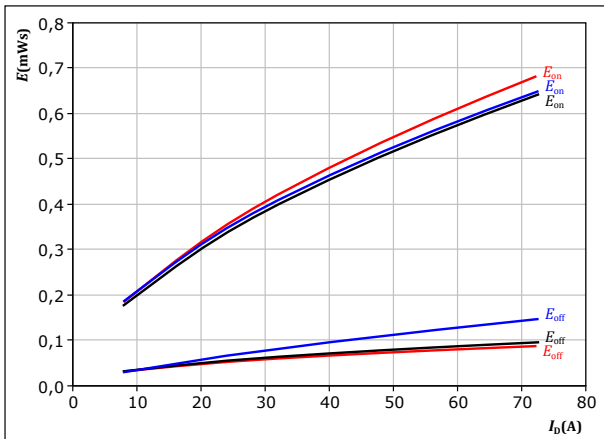
At $T_j = 150$ °C
 $R_{g(on)} = 4$ Ω
 $R_{g(off)} = 4$ Ω



H-Bridge Switching Characteristics - Hi side

figure 29. MOSFET

Typical switching energy losses as a function of drain current
 $E = f(I_D)$

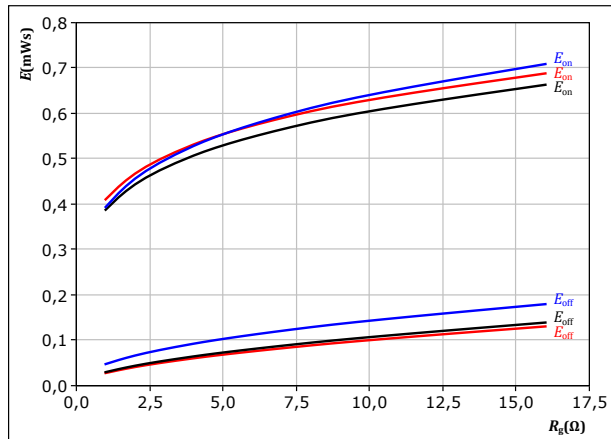


With an inductive load at

$V_{DS} = 600$ V	$T_j: 25$ °C
$V_{GS} = -5/15$ V	$T_j: 125$ °C
$R_{gon} = 4$ Ω	$T_j: 150$ °C
$R_{goff} = 4$ Ω	

figure 30. MOSFET

Typical switching energy losses as a function of gate resistor
 $E = f(R_g)$

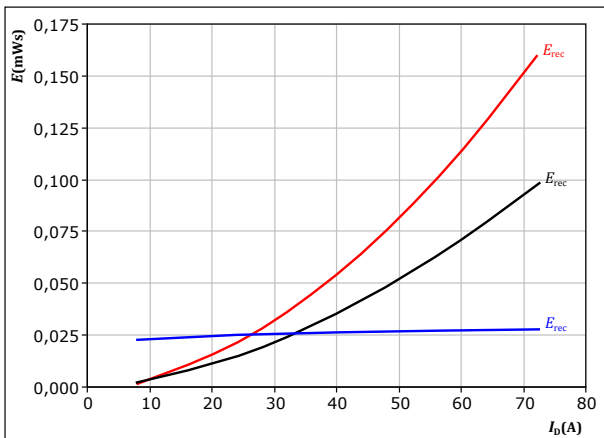


With an inductive load at

$V_{DS} = 600$ V	$T_j: 25$ °C
$V_{GS} = -5/15$ V	$T_j: 125$ °C
$I_D = 40$ A	$T_j: 150$ °C

figure 31. MOSFET

Typical reverse recovered energy loss as a function of drain current
 $E_{rec} = f(I_D)$

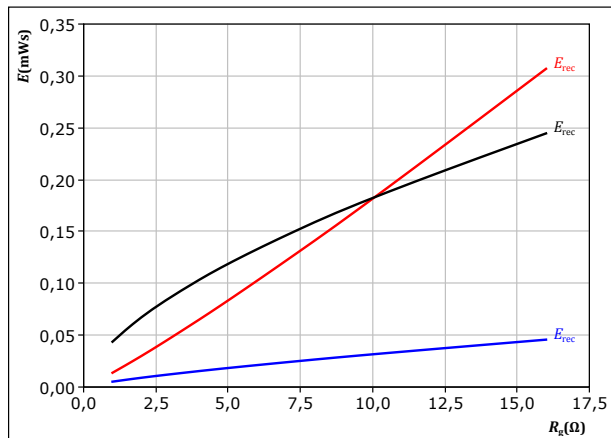


With an inductive load at

$V_{DS} = 600$ V	$T_j: 25$ °C
$V_{GS} = -5/15$ V	$T_j: 125$ °C
$R_{gon} = 4$ Ω	$T_j: 150$ °C

figure 32. MOSFET

Typical reverse recovered energy loss as a function of gate resistor
 $E_{rec} = f(R_g)$



With an inductive load at

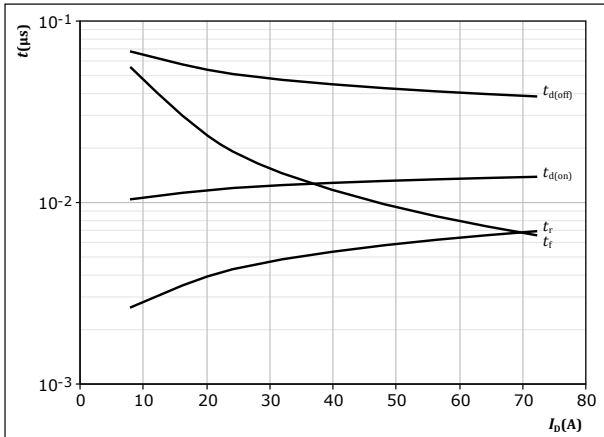
$V_{DS} = 600$ V	$T_j: 25$ °C
$V_{GS} = -5/15$ V	$T_j: 125$ °C
$I_D = 40$ A	$T_j: 150$ °C



H-Bridge Switching Characteristics - Hi side

figure 33. MOSFET

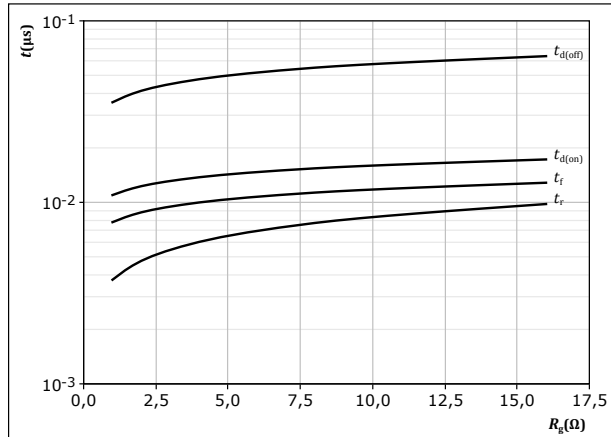
Typical switching times as a function of drain current
 $t = f(I_D)$



With an inductive load at
 $T_j = 150$ °C
 $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{gon} = 4$ Ω
 $R_{goff} = 4$ Ω

figure 34. MOSFET

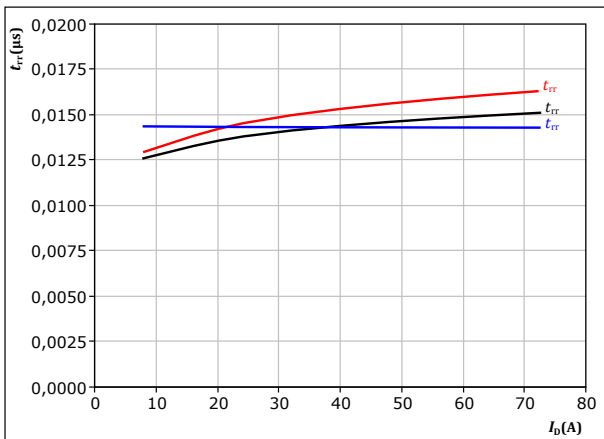
Typical switching times as a function of gate resistor
 $t = f(R_g)$



With an inductive load at
 $T_j = 150$ °C
 $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A

figure 35. MOSFET

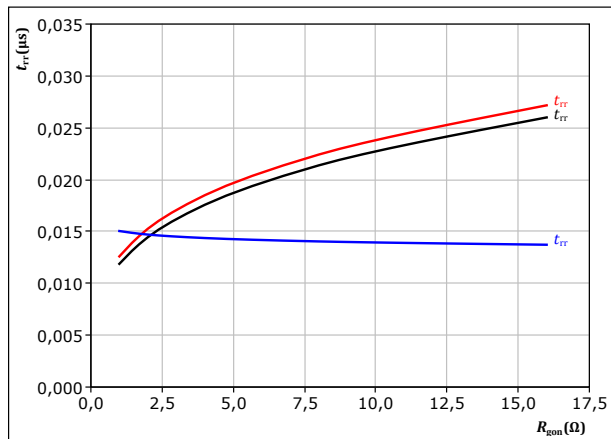
Typical reverse recovery time as a function of drain current
 $t_{rr} = f(I_D)$



At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{gon} = 4$ Ω
 T_j : 25 °C (blue), 125 °C (black), 150 °C (red)

figure 36. MOSFET

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



At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A
 T_j : 25 °C (blue), 125 °C (black), 150 °C (red)

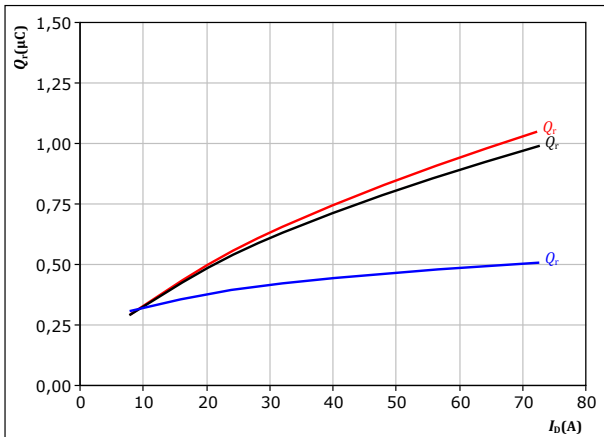


H-Bridge Switching Characteristics - Hi side

figure 37. MOSFET

Typical recovered charge as a function of drain current

$Q_r = f(I_D)$



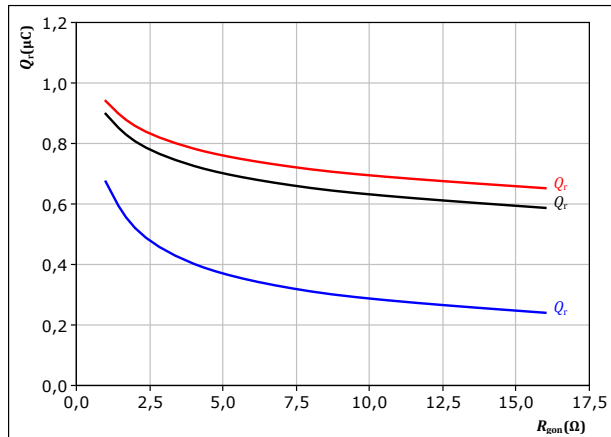
At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{gon} = 4$ Ω

T_j : — 25 °C
— 125 °C
— 150 °C

figure 38. MOSFET

Typical recovered charge as a function of turn on gate resistor

$Q_r = f(R_{gon})$



At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A

T_j : — 25 °C
— 125 °C
— 150 °C

figure 39. MOSFET

Typical peak reverse recovery current as a function of drain current

$I_{RM} = f(I_D)$



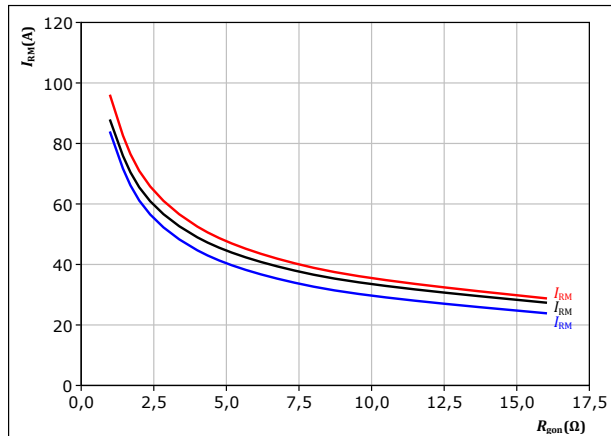
At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{gon} = 4$ Ω

T_j : — 25 °C
— 125 °C
— 150 °C

figure 40. MOSFET

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

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



At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A

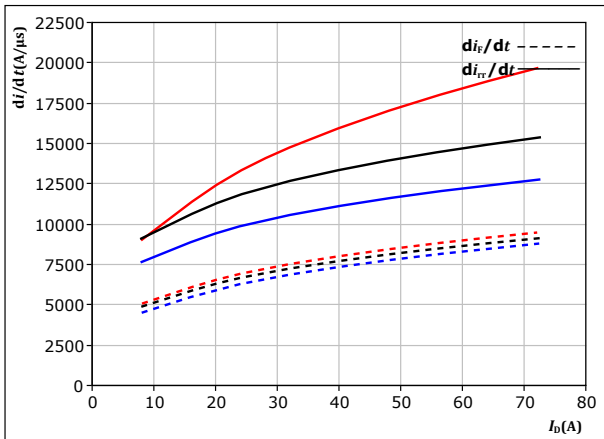
T_j : — 25 °C
— 125 °C
— 150 °C



H-Bridge Switching Characteristics - Hi side

figure 41. MOSFET

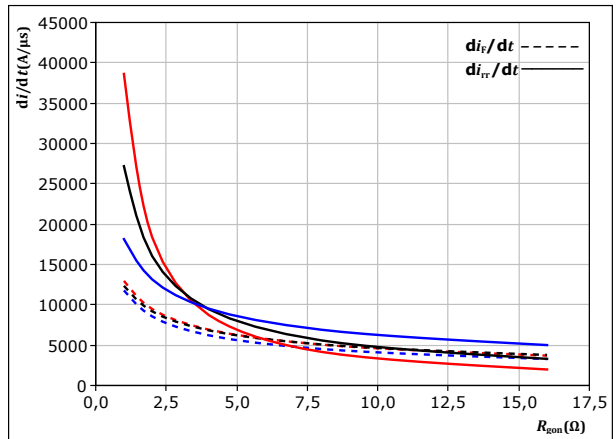
Typical rate of fall of forward and reverse recovery current as a function of drain current
 $di_f/dt, di_{rr}/dt = f(I_D)$



At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $R_{g(on)} = 4$ Ω
 $T_j = 25$ °C
 $T_j = 125$ °C
 $T_j = 150$ °C

figure 42. MOSFET

Typical rate of fall of forward and reverse recovery current as a function of turn on gate resistor
 $di_f/dt, di_{rr}/dt = f(R_{g(on)})$

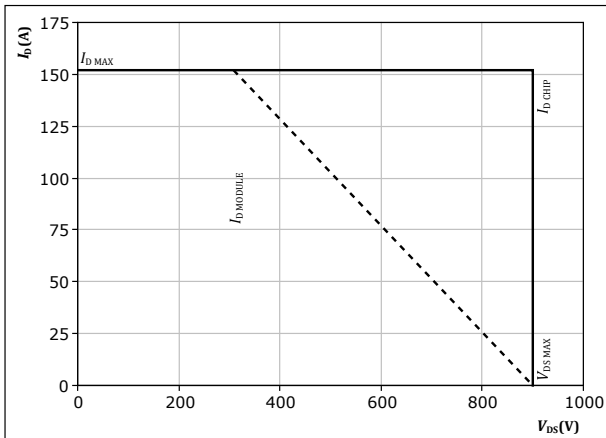


At $V_{DS} = 600$ V
 $V_{GS} = -5/15$ V
 $I_D = 40$ A
 $T_j = 25$ °C
 $T_j = 125$ °C
 $T_j = 150$ °C

figure 43. MOSFET

Reverse bias safe operating area

$I_D = f(V_{DS})$



At $T_j = 150$ °C
 $R_{g(on)} = 4$ Ω
 $R_{g(off)} = 4$ Ω



Switching Definitions

figure 44. MOSFET

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

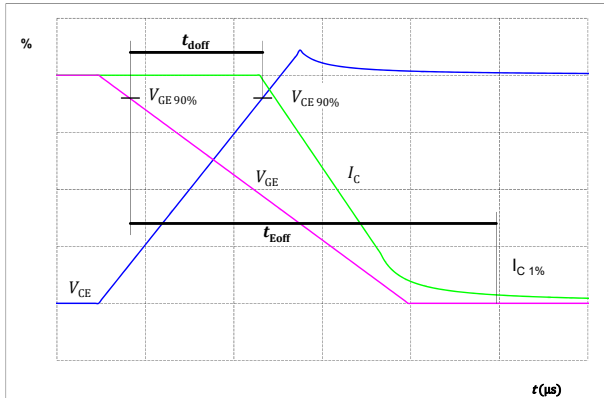


figure 45. MOSFET

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

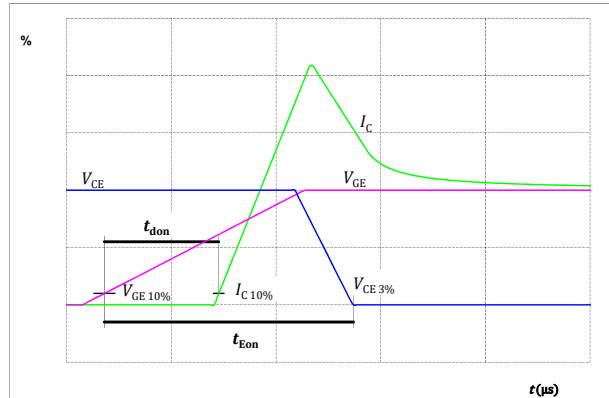


figure 46. MOSFET

Turn-off Switching Waveforms & definition of t_f

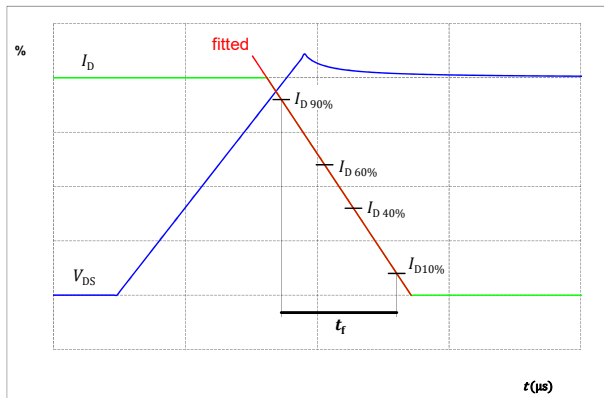
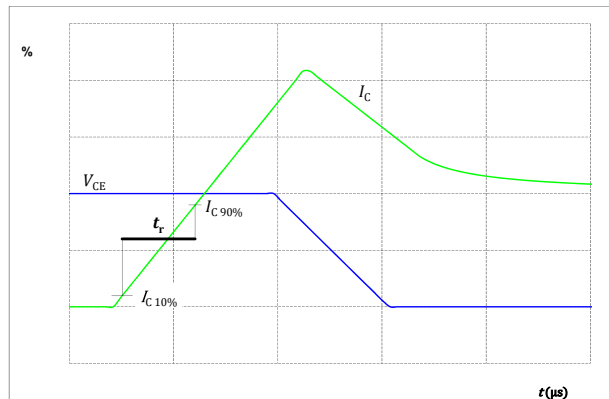


figure 47. MOSFET

Turn-on Switching Waveforms & definition of t_r





Switching Definitions

figure 48. FWD

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

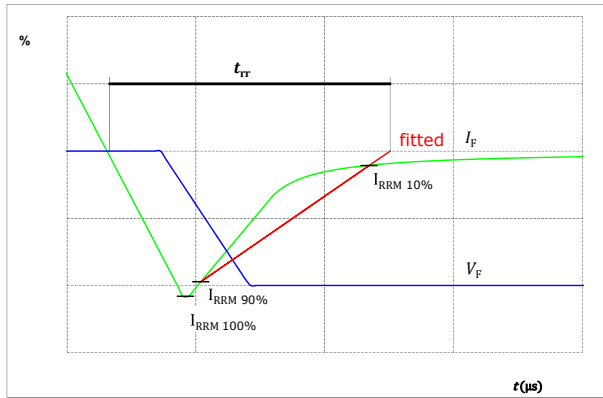


figure 49. FWD

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

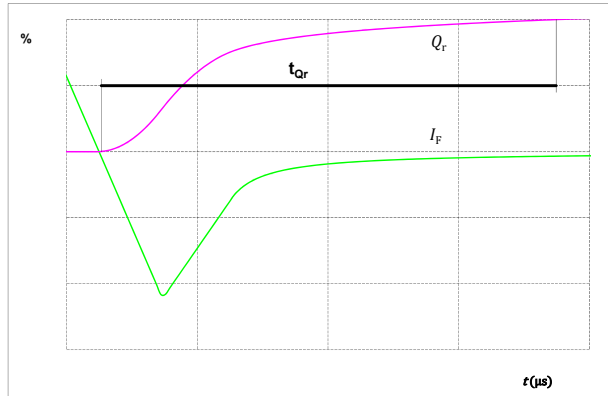
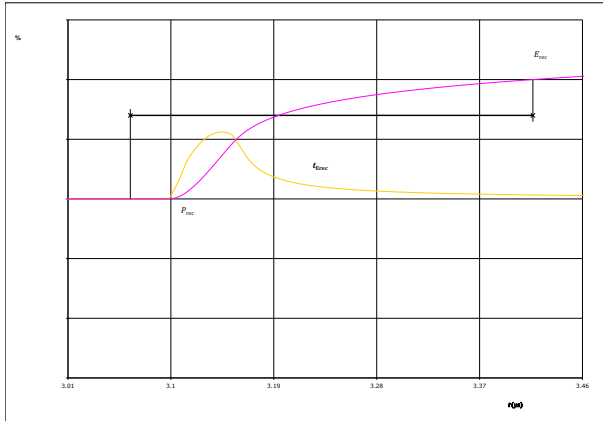


figure 50. FWD

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






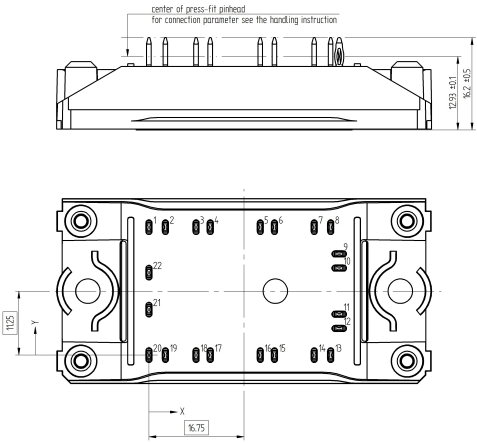
10-PC094PB035ME02-L629F36Y

datasheet

Vincotech

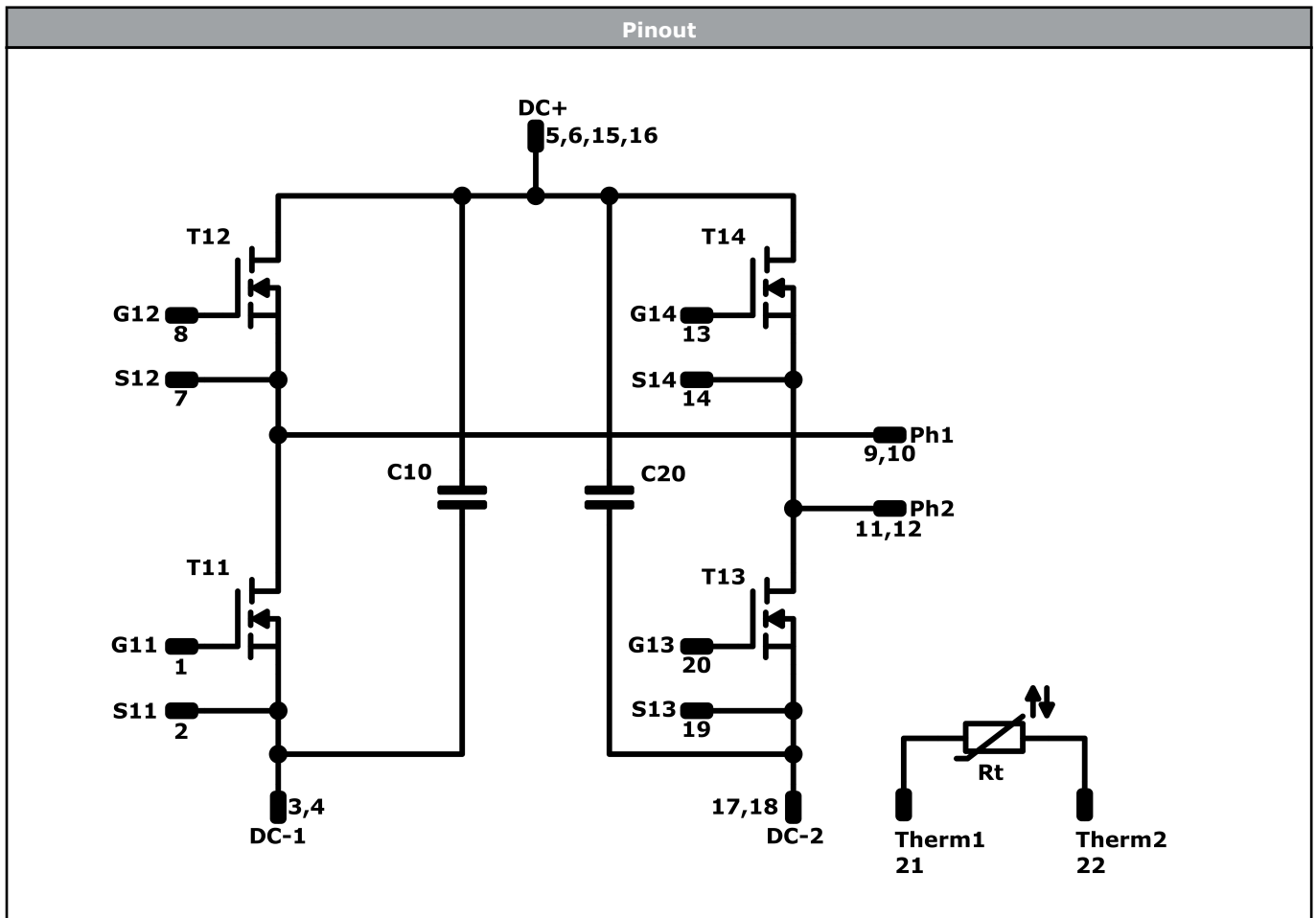
Ordering Code	
Version	Ordering Code
Without thermal paste	10-PC094PB035ME02-L629F36Y
With thermal paste	10-PC094PB035ME02-L629F36Y-/3/

Marking						
	Text	Name NN-NNNNNNNNNNNNNN- TTTTTV	Date code WWYY	UL & VIN UL VIN	Lot LLLLL	Serial SSSS
	Datamatrix	Type&Ver TTTTTTTV	Lot number LLLLL	Serial SSSS	Date code WWYY	

Pin table [mm]				Outline	
Pin	X	Y	Function	 <p>Tolerance of pinpositions: ±0,5mm at the end of pins Dimension of coordinate axis is only offset without tolerance</p>	
1	0	22,5	G11		
2	2,9	22,5	S11		
3	8,3	22,5	DC-1		
4	10,8	22,5	DC-1		
5	19,6	22,5	DC+		
6	22,1	22,5	DC+		
7	29,1	22,5	S12		
8	32	22,5	G12		
9	33,5	17,8	Ph1		
10	33,5	15,3	Ph1		
11	33,5	7,2	Ph2		
12	33,5	4,7	Ph2		
13	32	0	G14		
14	29,1	0	S14		
15	22,1	0	DC+		
16	19,6	0	DC+		
17	10,8	0	DC-2		
18	8,3	0	DC-2		
19	2,9	0	S13		
20	0	0	G13		
21	0	8	Therm1		
22	0	14,5	Therm2		



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Identification					
ID	Component	Voltage	Current	Function	Comment
T11, T13	MOSFET	900 V	32,5 mΩ	H-Bridge Switch - Lo side	
T12, T14	MOSFET	900 V	32,5 mΩ	H-Bridge Switch - Hi side	
C10, C20	Capacitor	1000 V		Capacitor (DC)	
Rt	NTC			Thermistor	




Vincotech

Packaging instruction				
Standard packaging quantity (SPQ) 135	>SPQ	Standard	<SPQ	Sample

Handling instruction
Handling instructions for <i>flow 0</i> packages see vincotech.com website.

Package data
Package data for <i>flow 0</i> packages see 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-PC094PB035ME02-L629F36Y-D2-14	11 Feb. 2020	Correct output characteristic of H-bridge switch	

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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.

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