Vincotech

10-PY12NMD016ME-PG08F18T
datasheet

***flow*MNPC 1 SiC** **1200 V / 16 mΩ**

Topology features

- Integrated DC capacitor
- Kelvin Emitter for improved switching performance
- Low inductive commutation loop
- Mixed Voltage Neutral Point Clamped Topology (T-Type)
- SiC MOSFET
- Temperature sensor

Component features

- High Blocking Voltage with low drain source on state resistance
- High speed SiC-MOSFET technology
- Resistant to Latch-up

Housing features

- Base isolation: Al_2O_3
- Convex shaped substrate for superior thermal contact
- Thermo-mechanical push-and-pull force relief
- Press-fit pin
- Reliable cold welding connection

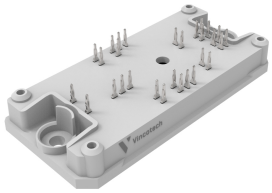
Target applications

- Charging Stations
- Energy Storage Systems
- UPS

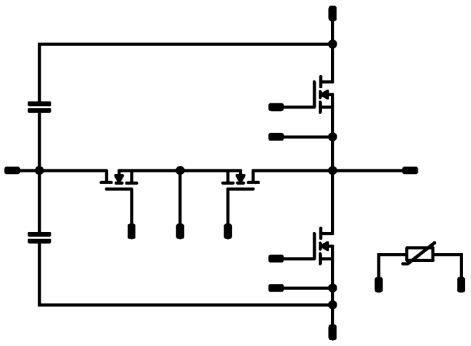
Types

- 10-PY12NMD016ME-PG08F18T

flow 1 12 mm housing



Schematic



Maximum Ratings

T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
Buck Switch				
Drain-source voltage	V_{DSS}		1200	V
Drain current (DC current)	I_D	T_j = T_{jmax} T_s = 80 °C	76	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	240	A
Total power dissipation	P_{tot}	T_j = T_{jmax} T_s = 80 °C	141	W
Gate-source voltage	V_{GSS}		-4 / 15	V
		dynamic	-8 / 19	
Maximum Junction Temperature	T_{jmax}		175	°C
Boost Switch				
Drain-source voltage	V_{DSS}		650	V
Drain current (DC current)	I_D	T_j = T_{jmax} T_s = 80 °C	76	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	396	A
Total power dissipation	P_{tot}	T_j = T_{jmax} T_s = 80 °C	138	W
Gate-source voltage	V_{GSS}		-4 / 15	V
		dynamic	-8 / 19	
Maximum Junction Temperature	T_{jmax}		175	°C
Capacitor (DC)				
Maximum DC voltage	V_{MAX}		630	V
Operation Temperature	T_{op}		-55 ... 125	°C

Maximum Ratings

T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	Value	Unit
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 s	6000	V
Creepage distance			>12,7	mm
Clearance			8,01	mm
Comparative Tracking Index	CTI		≥ 600	

*100 % tested in production

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(1)	$r_{DS(on)}$		15		80	25 175	11,2	16 28,8	20,8	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$			0,023	25	1,8	2,5	3,6	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		20	500	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	1200		25		2	38	µA
Internal gate resistance	r_g							0,85		Ω
Gate charge	Q_g		-4/15	800	80	25		236		nC
Short-circuit input capacitance	C_{iss}	f = 100 kHz	0	1000	0	25		6714		pF
Short-circuit output capacitance	C_{oss}							258		
Reverse transfer capacitance	C_{rss}							16		
Diode forward voltage	V_{SD}		0		40	25		4,6		V
Thermal										
Thermal resistance junction to sink(2)	$R_{th(j-s)}$	λ_{pastc} = 3,4 W/mK (PSX)						0,68		K/W

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} = 8 Ω R_{goff} = 8 Ω	-4/15	350	70	25 125 150		41,81 37,9 36,9		ns
Rise time	t_r					25 125 150		21,65 17,98 17,54		ns
Turn-off delay time	$t_{d(off)}$					25 125 150		91,38 102,61 104,99		ns
Fall time	t_f					25 125 150		8,7 9,1 8,95		ns
Turn-on energy (per pulse)	E_{on}	Q_{rFWD}=0,281 µC Q_{rFWD}=0,521 µC Q_{rFWD}=0,618 µC				25 125 150		0,513 0,464 0,469		mWs
Turn-off energy (per pulse)	E_{off}					25 125 150		0,378 0,364 0,372		mWs
Peak recovery current	I_{RRM}	di/dt=4007 A/µs di/dt=4747 A/µs di/dt=4929 A/µs				25 125 150		30,7 42,97 47,63		A
Reverse recovery time	t_{rr}					25 125 150		15,83 19,73 20,84		ns
Recovered charge	Q_r					25 125 150		0,281 0,521 0,618		µC
Reverse recovered energy	E_{rec}					25 125 150		0,03 0,078 0,098		mWs
Peak rate of fall of recovery current	$(di_{rf}/dt)_{max}$					25 125 150		5411,77 6993,11 6924,53		A/µs

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(1)	$r_{DS(on)}$		15		52,8	25 175		15 20	20	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$			0,01452	25	1,8	2,6	3,6	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		30	300	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	650		25		3	96	µA
Internal gate resistance	r_g							1		Ω
Gate charge	Q_g		-4/15	400	52,8	25		189		nC
Short-circuit input capacitance	C_{iss}	f = 1 Mhz	0	600	0	25		4800		pF
Short-circuit output capacitance	C_{oss}							300		
Reverse transfer capacitance	C_{rss}							24		
Diode forward voltage	V_{SD}		0		26,4	25		4,8		V
Thermal										
Thermal resistance junction to sink(2)	$R_{th(j-s)}$	λ_{pastc} = 3,4 W/mK (PSX)						0,69		K/W

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 Ω R_{goff} = 4 Ω	-4/15	350	70	25 125 150		22,59 21,01 20,64		ns
Rise time	t_r					25 125 150		14,5 12,98 12,78		ns
Turn-off delay time	$t_{d(off)}$					25 125 150		50,15 54,15 54,96		ns
Fall time	t_f					25 125 150		23,64 26,29 26,86		ns
Turn-on energy (per pulse)	E_{on}	Q_{rFWD}=0,521 µC Q_{rFWD}=0,704 µC Q_{rFWD}=0,859 µC				25 125 150		0,398 0,324 0,339		mWs
Turn-off energy (per pulse)	E_{off}					25 125 150		0,197 0,181 0,197		mWs
Peak recovery current	I_{RRM}	di/dt=5865 A/µs di/dt=6750 A/µs di/dt=6719 A/µs				25 125 150		47,27 56,05 60,05		A
Reverse recovery time	t_{rr}					25 125 150		19,47 21,41 24,25		ns
Recovered charge	Q_r					25 125 150		0,521 0,704 0,859		µC
Reverse recovered energy	E_{rec}					25 125 150		0,092 0,154 0,196		mWs
Peak rate of fall of recovery current	$(di_{rf}/dt)_{max}$					25 125 150		8953,19 6407,58 6385,01		A/µs

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	DC bias voltage = 0 V				25		100		nF
Tolerance							-10		10	%
Dissipation factor		f = 1 kHz				25		2,5		%
Thermistor										
Static										
Rated resistance	R					25		22		kΩ
Deviation of R100	$\Delta_{R/R}$	R_{100} = 1484 Ω				100	-5		5	%
Power dissipation	P					25		130		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	

(1) Value at chip level

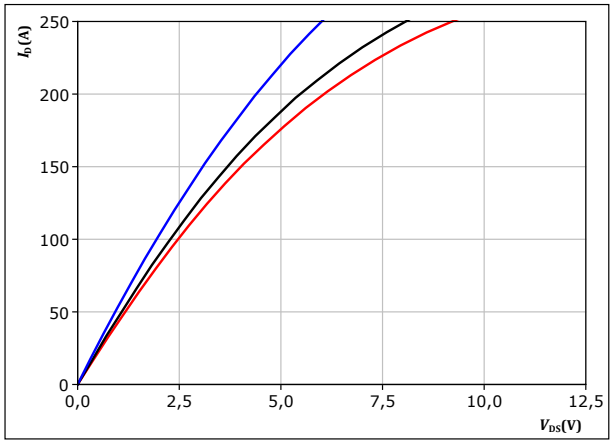
(2) Only valid with pre-applied Vincotech thermal interface material.

Buck Switch Characteristics

figure 1. **MOSFET**

Typical output characteristics including $R_{DD'+SS'}$

$I_D = f(V_{DS})$



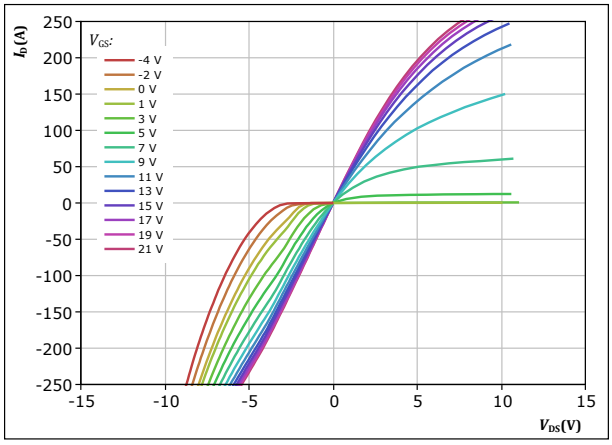
t_p = 250 µs
V_{GS} = 15 V

T_j: 25 °C, 125 °C, 150 °C

figure 2. **MOSFET**

Typical output characteristics including $R_{DD'+SS'}$

$I_D = f(V_{DS})$

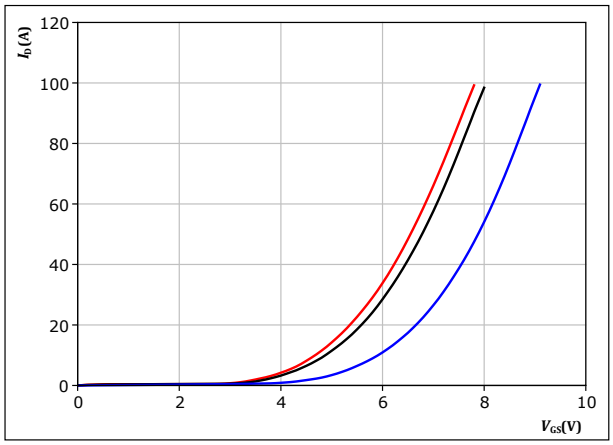


t_p = 250 µs
T_j = 150 °C
V_{GS} from -4 V to 21 V in steps of 2 V

figure 3. **MOSFET**

Typical transfer characteristics

$I_D = f(V_{GS})$



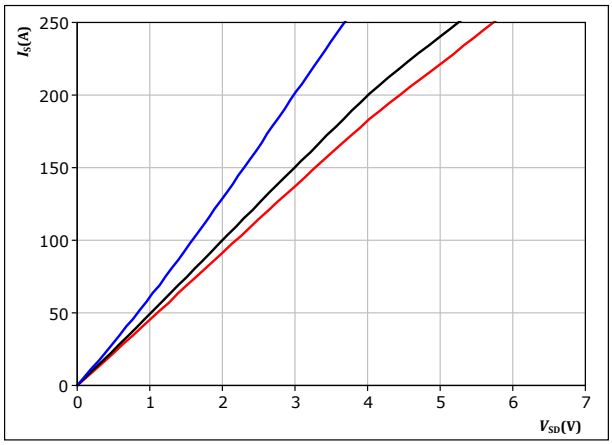
t_p = 250 µs
V_{DS} = 10 V

T_j: 25 °C, 125 °C, 150 °C

figure 4. **MOSFET**

Typical reverse drain current characteristics

$I_{SD} = f(V_{SD})$



t_p = 250 µs
V_{GS} = 15 V

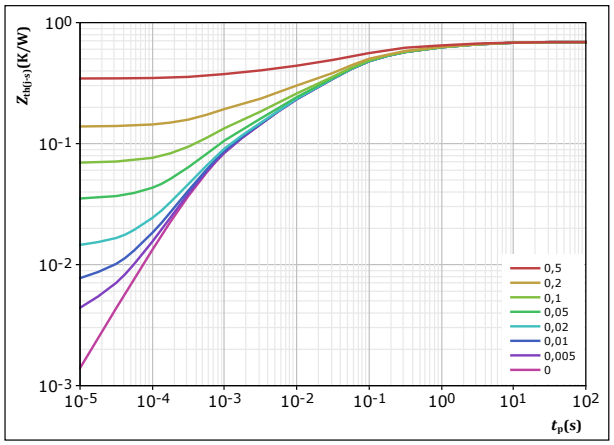
T_j: 25 °C, 125 °C, 150 °C

Buck Switch Characteristics

figure 5. **MOSFET**

Transient thermal impedance as a function of pulse width

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



$D =$ t_p / T

$R_{th(j-s)} =$ 0,69 K/W

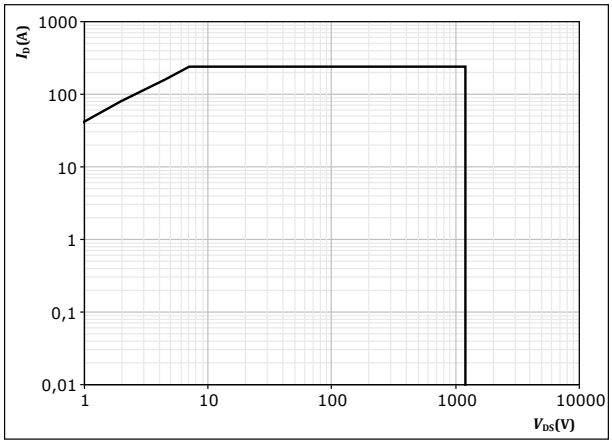
MOSFET thermal model values

R (K/W)	τ (s)
5,00E-02	5,54E+00
1,17E-01	6,12E-01
3,05E-01	6,28E-02
1,41E-01	6,69E-03
7,63E-02	6,67E-04

figure 6. **MOSFET**

Safe operating area

$I_D = f(V_{DS})$



$D =$ single pulse

$T_s =$ 80 °C

$V_{GS} =$ 15 V

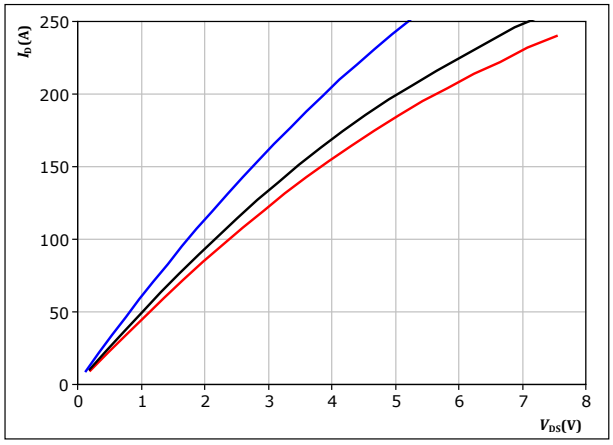
$T_j =$ T_{jmax}

Boost Switch Characteristics

figure 7. **MOSFET**

Typical output characteristics including $R_{DD'+SS'}$

$I_D = f(V_{DS})$

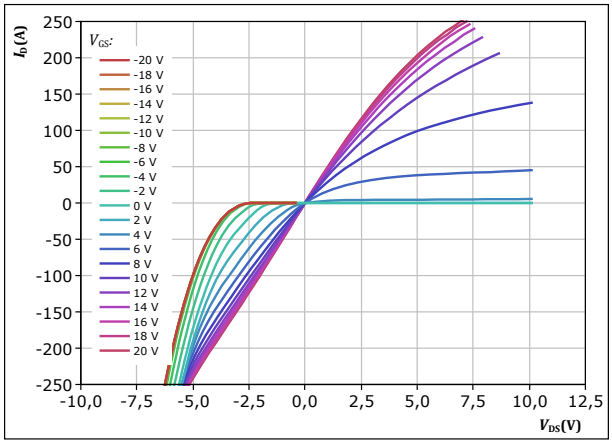


t_p =	250	µs		
V_{GS} =	14	V	T_j:	25 °C
				125 °C
				150 °C

figure 8. **MOSFET**

Typical output characteristics including $R_{DD'+SS'}$

$I_D = f(V_{DS})$



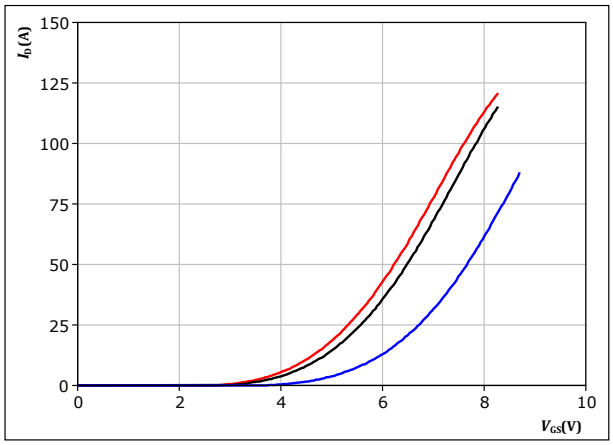
t_p =	250	µs
T_j =	150	°C

V_{GS} from -20 V to 20 V in steps of 2 V

figure 9. **MOSFET**

Typical transfer characteristics

$I_D = f(V_{GS})$

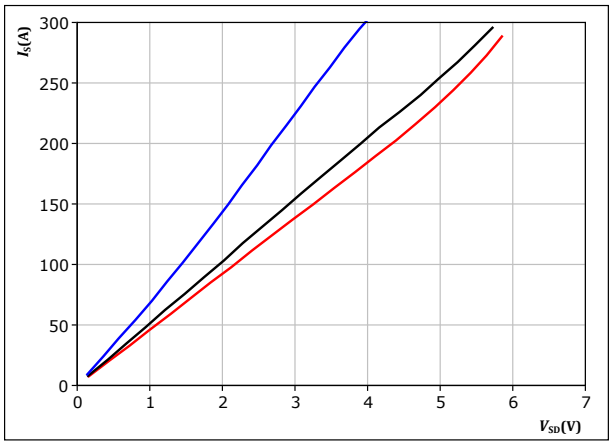


t_p =	250	µs		
V_{DS} =	10	V	T_j:	25 °C
				125 °C
				150 °C

figure 10. **MOSFET**

Typical reverse drain current characteristics

$I_{SD} = f(V_{SD})$



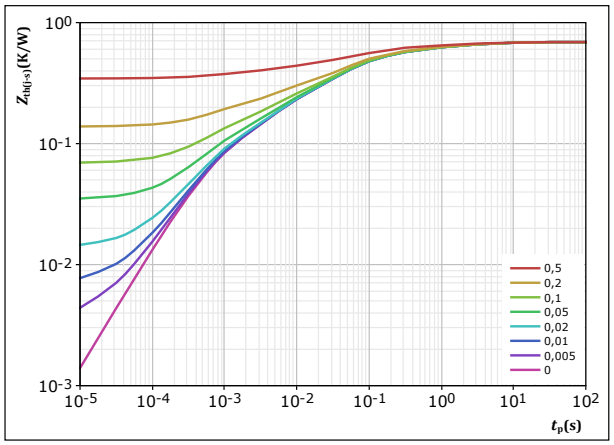
t_p =	250	µs		
V_{GS} =	14	V	T_j:	25 °C
				125 °C
				150 °C

Boost Switch Characteristics

figure 11. **MOSFET**

Transient thermal impedance as a function of pulse width

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



$D =$ t_p / T

$R_{th(j-s)} =$ 0,69 K/W

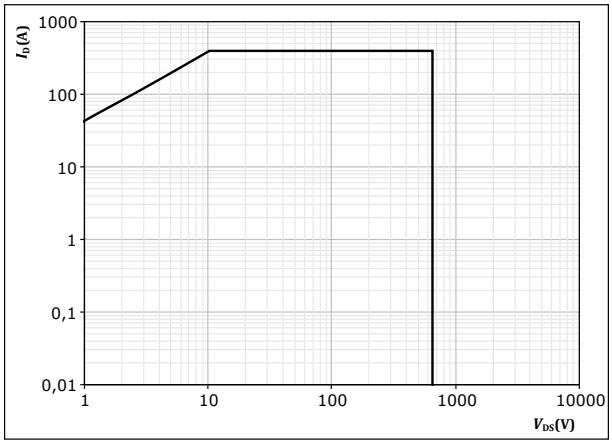
MOSFET thermal model values

R (K/W)	τ (s)
5,00E-02	5,54E+00
1,17E-01	6,12E-01
3,05E-01	6,28E-02
1,41E-01	6,69E-03
7,63E-02	6,67E-04

figure 12. **MOSFET**

Safe operating area

$I_D = f(V_{DS})$



$D =$ single pulse

$T_s =$ 80 °C

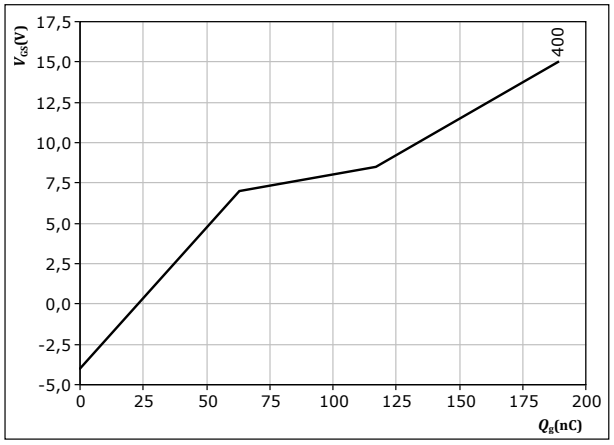
$V_{GS} =$ 14 V

$T_j =$ T_{jmax}

figure 13. **MOSFET**

Gate voltage vs gate charge

$V_{GS} = f(Q_g)$



$I_D =$ 17.6 A

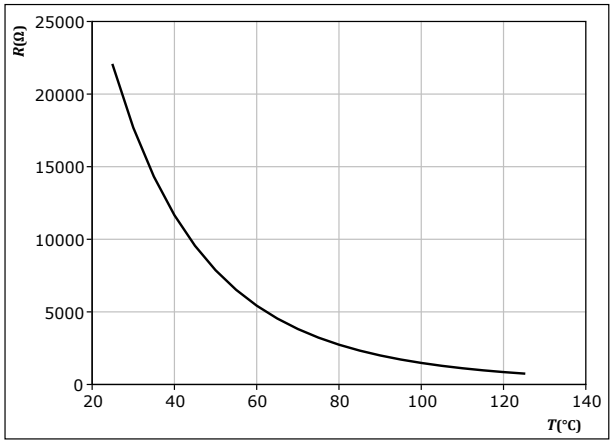
$T_j =$ 25 °C

Thermistor Characteristics

figure 14. **Thermistor**

Typical NTC characteristic as function of temperature

$R_T = f(T)$

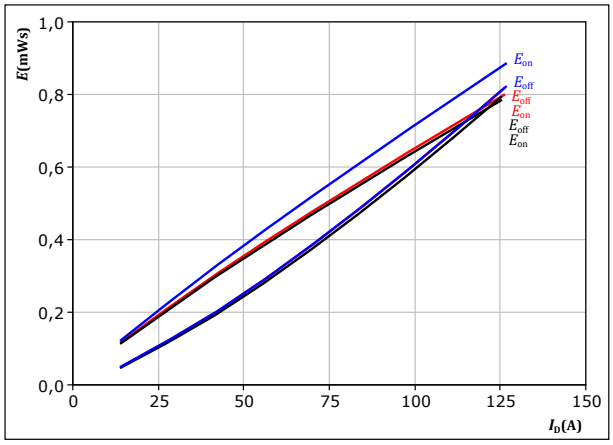


Buck Switching Characteristics

figure 15. **MOSFET**

Typical switching energy losses as a function of drain current

$E = f(I_D)$



With an inductive load at

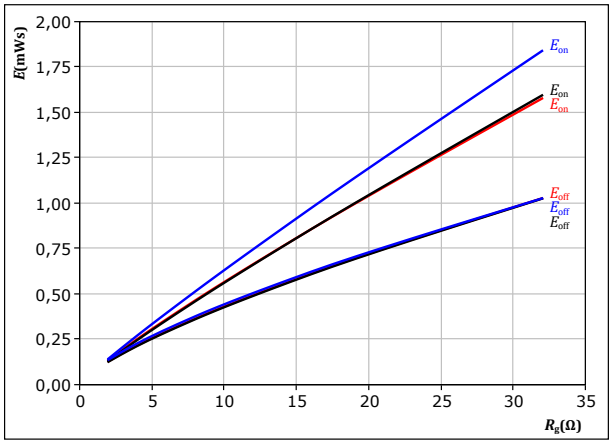
V_{DS} =	350	V
V_{GS} =	-4/15	V
R_{gon} =	8	Ω
R_{goff} =	8	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 16. **MOSFET**

Typical switching energy losses as a function of MOSFET turn on gate resistor

$E = f(R_g)$



With an inductive load at

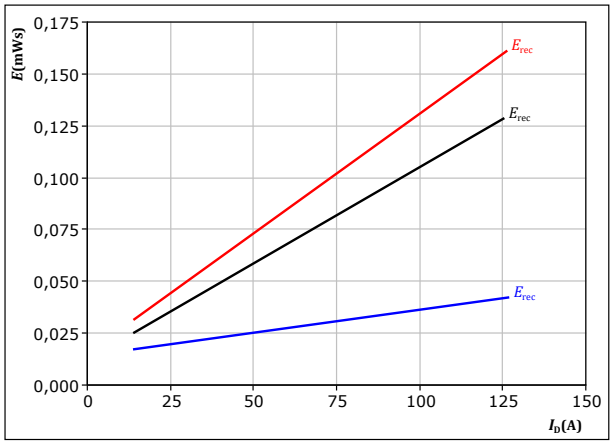
V_{DS} =	350	V
V_{GS} =	-4/15	V
I_D =	70	A

T_j: 25 °C, 125 °C, 150 °C

figure 17. **MOSFET**

Typical reverse recovered energy loss as a function of drain current

$E_{rec} = f(I_D)$



With an inductive load at

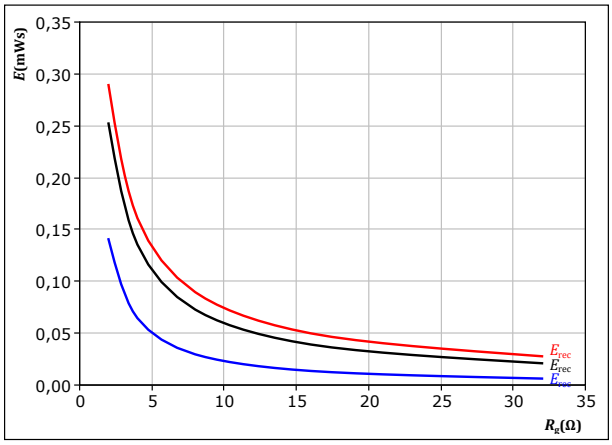
V_{DS} =	350	V
V_{GS} =	-4/15	V
R_{gon} =	8	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 18. **MOSFET**

Typical reverse recovered energy loss as a function of MOSFET turn on gate resistor

$E_{rec} = f(R_g)$



With an inductive load at

V_{DS} =	350	V
V_{GS} =	-4/15	V
I_D =	70	A

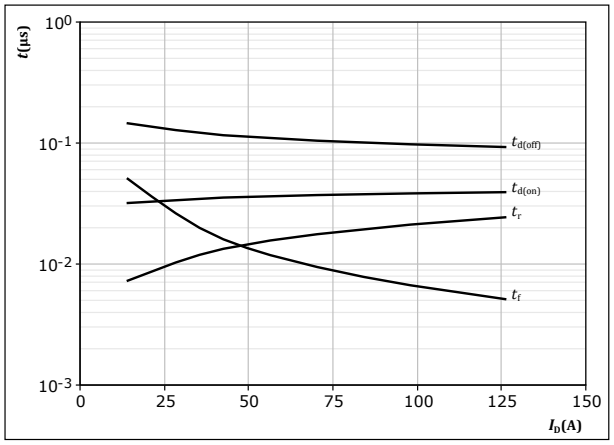
T_j: 25 °C, 125 °C, 150 °C

Buck Switching Characteristics

figure 19. **MOSFET**

Typical switching times as a function of drain current

$t = f(I_D)$



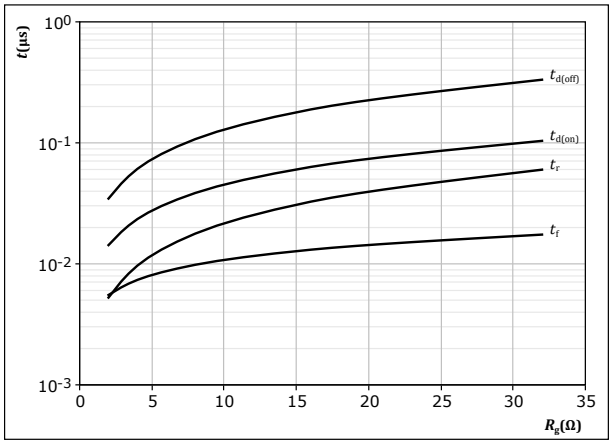
With an inductive load at

$T_j =$	150	°C
$V_{DS} =$	350	V
$V_{GS} =$	-4/15	V
$R_{gon} =$	8	Ω
$R_{goff} =$	8	Ω

figure 20. **MOSFET**

Typical switching times as a function of MOSFET turn on gate resistor

$t = f(R_g)$



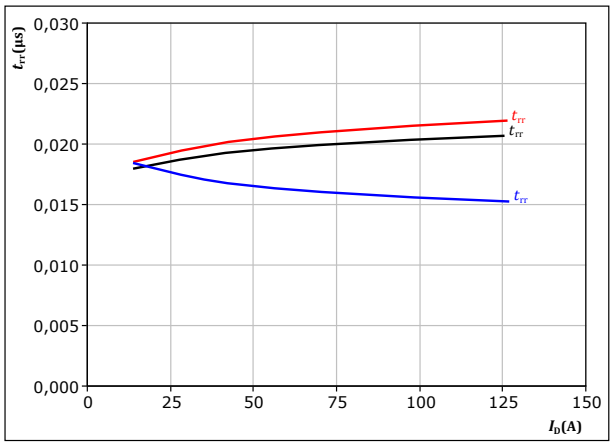
With an inductive load at

$T_j =$	150	°C
$V_{DS} =$	350	V
$V_{GS} =$	-4/15	V
$I_D =$	70	A

figure 21. **MOSFET**

Typical reverse recovery time as a function of drain current

$t_{rr} = f(I_D)$



At

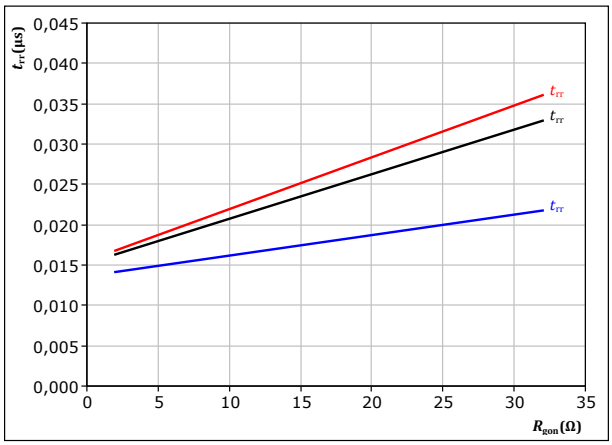
$V_{DS} =$	350	V
$V_{GS} =$	-4/15	V
$R_{gon} =$	8	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 22. **MOSFET**

Typical reverse recovery time as a function of MOSFET turn on gate resistor

$t_{rr} = f(R_{gon})$



At

$V_{DS} =$	350	V
$V_{GS} =$	-4/15	V
$I_D =$	70	A

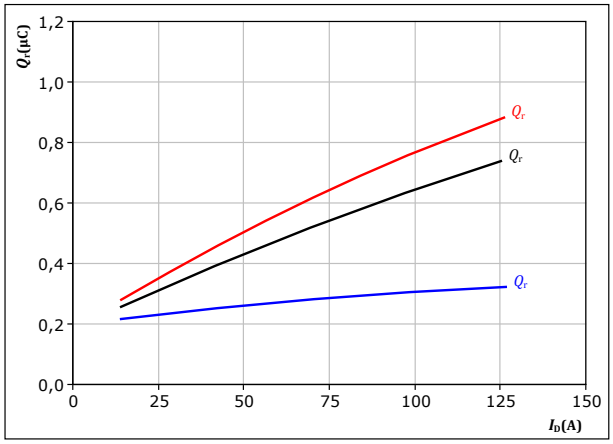
T_j: 25 °C, 125 °C, 150 °C

Buck Switching Characteristics

figure 23. **MOSFET**

Typical recovered charge as a function of drain current

$Q_r = f(I_D)$

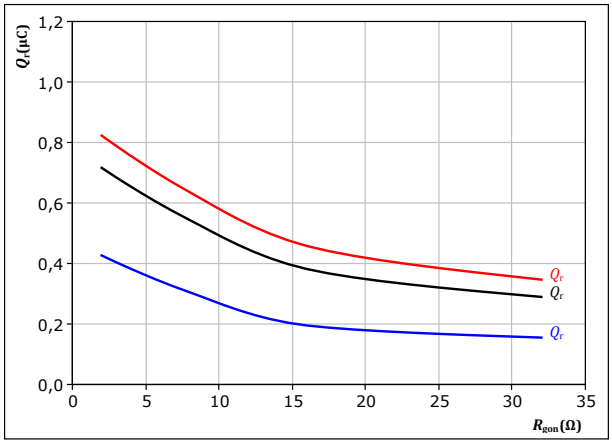


At				T_j:	
	V_{DS} =	350	V		25 °C
	V_{GS} =	-4/15	V		125 °C
	R_{gon} =	8	Ω		150 °C

figure 24. **MOSFET**

Typical recovered charge as a function of MOSFET turn on gate resistor

$Q_r = f(R_{gon})$

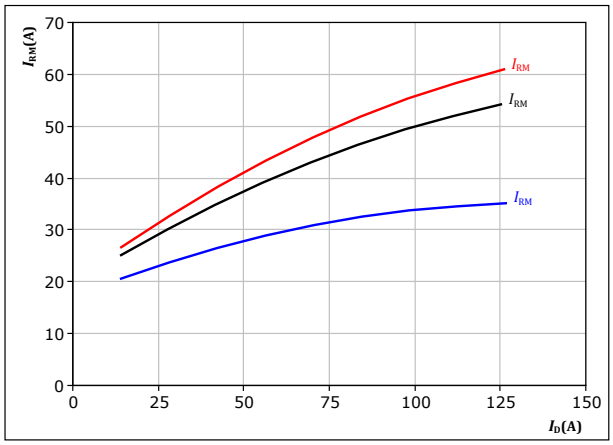


At				T_j:	
	V_{DS} =	350	V		25 °C
	V_{GS} =	-4/15	V		125 °C
	I_D =	70	A		150 °C

figure 25. **MOSFET**

Typical peak reverse recovery current as a function of drain current

$I_{RM} = f(I_D)$

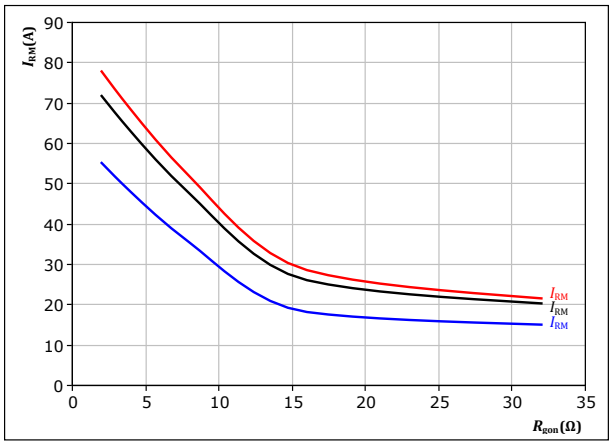


At				T_j:	
	V_{DS} =	350	V		25 °C
	V_{GS} =	-4/15	V		125 °C
	R_{gon} =	8	Ω		150 °C

figure 26. **MOSFET**

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

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



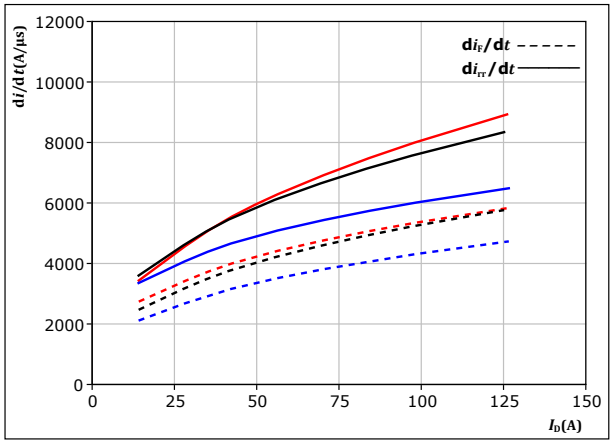
At				T_j:	
	V_{DS} =	350	V		25 °C
	V_{GS} =	-4/15	V		125 °C
	I_D =	70	A		150 °C

Buck Switching Characteristics

figure 27. **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)

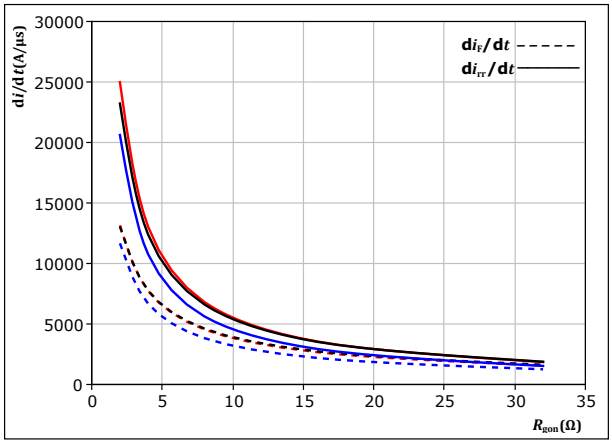


At					
	V_{DS} =	350	V		
	V_{GS} =	-4/15	V	T_j:	25 °C
	R_{gon} =	8	Ω		125 °C
					150 °C

figure 28. **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_{gon})

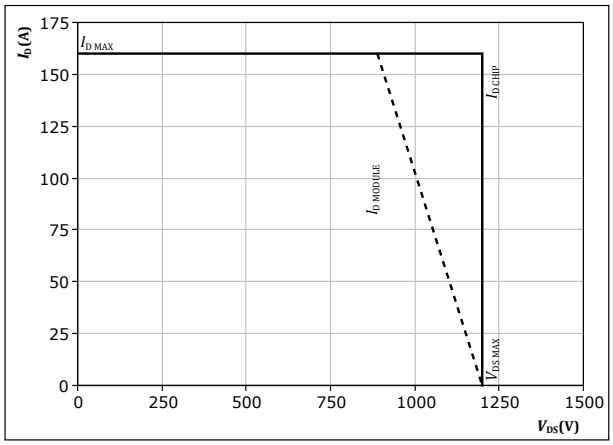


At					
	V_{DS} =	350	V		
	V_{GS} =	-4/15	V	T_j:	25 °C
	I_D =	70	A		125 °C
					150 °C

figure 29. **MOSFET**

Reverse bias safe operating area

I_D = f(V_{DS})



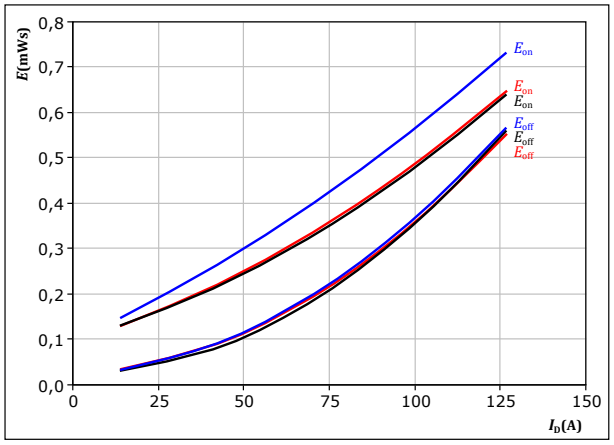
At			
	T_j =	150	°C
	R_{gon} =	8	Ω
	R_{goff} =	8	Ω

Boost Switching Characteristics

figure 30. **MOSFET**

Typical switching energy losses as a function of drain current

$E = f(I_D)$



With an inductive load at

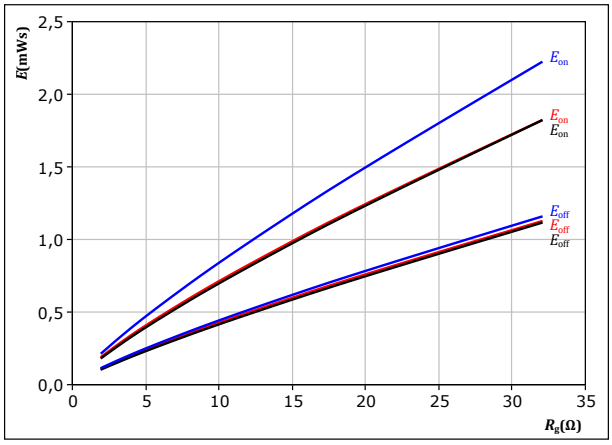
V_{DS} =	350	V	
V_{GS} =	-4/15	V	
R_{gon} =	4	Ω	
R_{goff} =	4	Ω	

T_j: 25 °C, 125 °C, 150 °C

figure 31. **MOSFET**

Typical switching energy losses as a function of MOSFET turn on gate resistor

$E = f(R_g)$



With an inductive load at

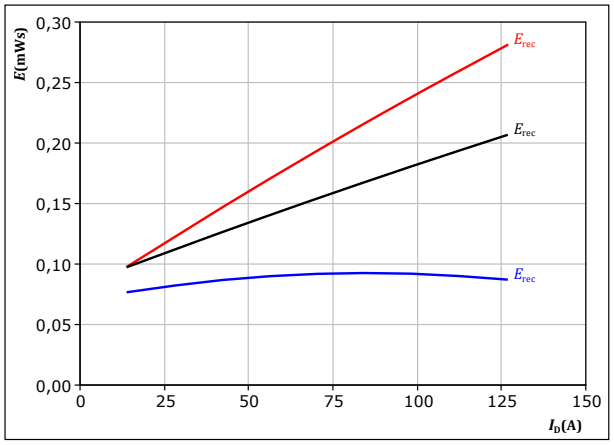
V_{DS} =	350	V	
V_{GS} =	-4/15	V	
I_D =	70	A	

T_j: 25 °C, 125 °C, 150 °C

figure 32. **MOSFET**

Typical reverse recovered energy loss as a function of drain current

$E_{rec} = f(I_D)$



With an inductive load at

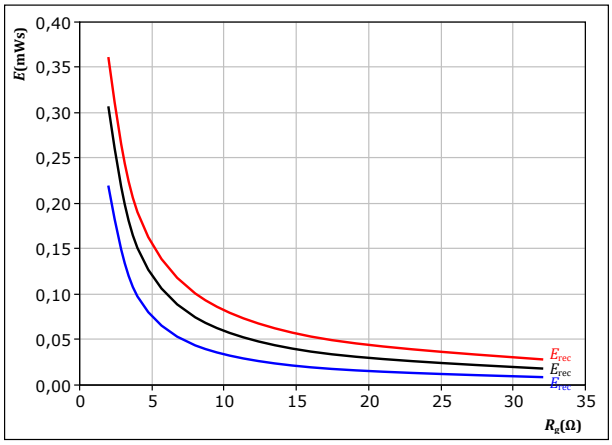
V_{DS} =	350	V	
V_{GS} =	-4/15	V	
R_{gon} =	4	Ω	

T_j: 25 °C, 125 °C, 150 °C

figure 33. **MOSFET**

Typical reverse recovered energy loss as a function of MOSFET turn on gate resistor

$E_{rec} = f(R_g)$



With an inductive load at

V_{DS} =	350	V	
V_{GS} =	-4/15	V	
I_D =	70	A	

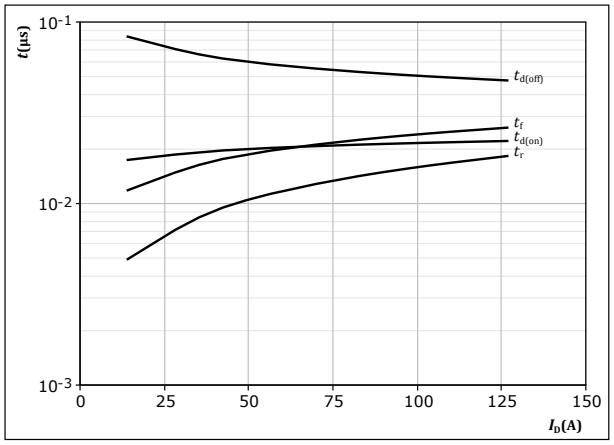
T_j: 25 °C, 125 °C, 150 °C

Boost Switching Characteristics

figure 34. **MOSFET**

Typical switching times as a function of drain current

$t = f(I_D)$



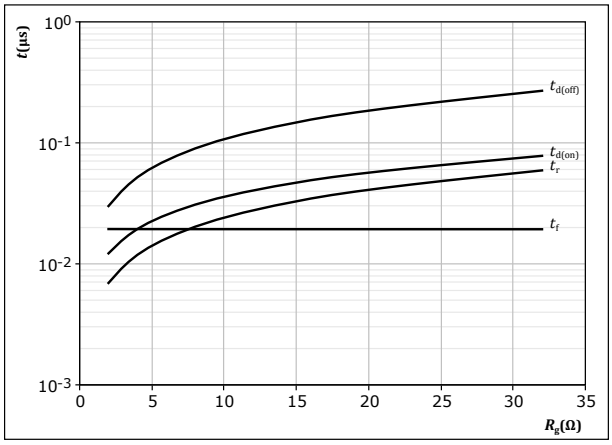
With an inductive load at

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

figure 35. **MOSFET**

Typical switching times as a function of MOSFET turn on gate resistor

$t = f(R_g)$



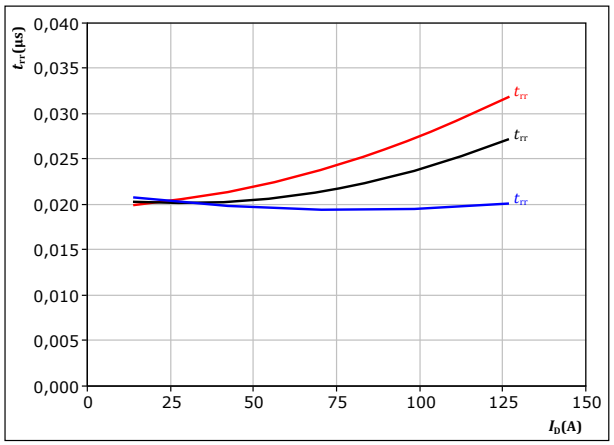
With an inductive load at

T_j =	150	°C
V_{DS} =	350	V
V_{GS} =	-4/15	V
I_D =	70	A

figure 36. **MOSFET**

Typical reverse recovery time as a function of drain current

$t_{rr} = f(I_D)$



At

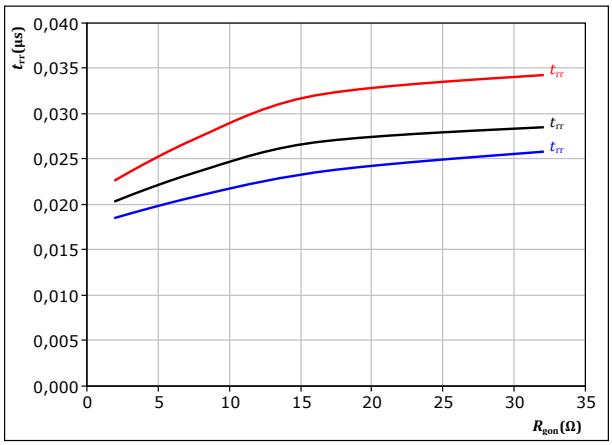
V_{DS} =	350	V
V_{GS} =	-4/15	V
R_{gon} =	4	Ω

T_j: 25 °C, 125 °C, 150 °C

figure 37. **MOSFET**

Typical reverse recovery time as a function of MOSFET turn on gate resistor

$t_{rr} = f(R_{gon})$



At

V_{DS} =	350	V
V_{GS} =	-4/15	V
I_D =	70	A

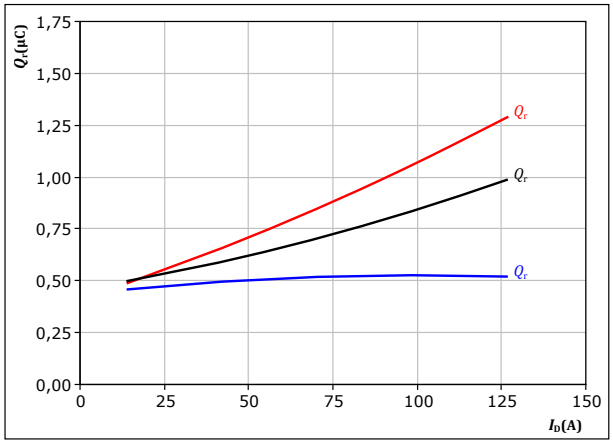
T_j: 25 °C, 125 °C, 150 °C

Boost Switching Characteristics

figure 38. **MOSFET**

Typical recovered charge as a function of drain current

$Q_r = f(I_D)$

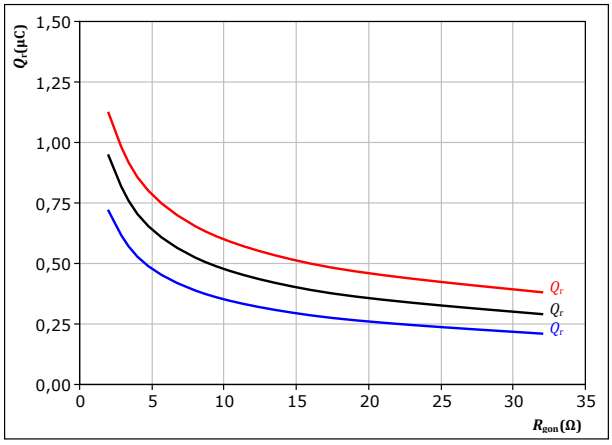


At				
V_{DS} =	350	V		
V_{GS} =	-4/15	V	T_j:	25 °C
R_{gon} =	4	Ω		125 °C
				150 °C

figure 39. **MOSFET**

Typical recovered charge as a function of MOSFET turn on gate resistor

$Q_r = f(R_{gon})$

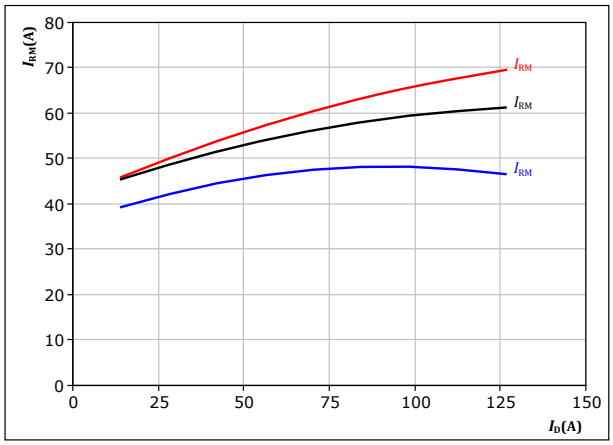


At				
V_{DS} =	350	V		
V_{GS} =	-4/15	V	T_j:	25 °C
I_D =	70	A		125 °C
				150 °C

figure 40. **MOSFET**

Typical peak reverse recovery current as a function of drain current

$I_{RM} = f(I_D)$

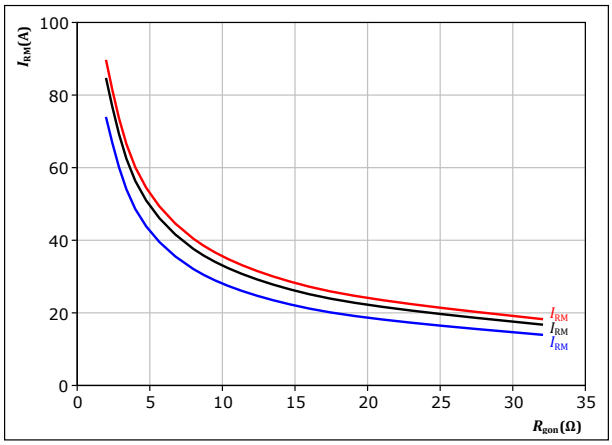


At				
V_{DS} =	350	V		
V_{GS} =	-4/15	V	T_j:	25 °C
R_{gon} =	4	Ω		125 °C
				150 °C

figure 41. **MOSFET**

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

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



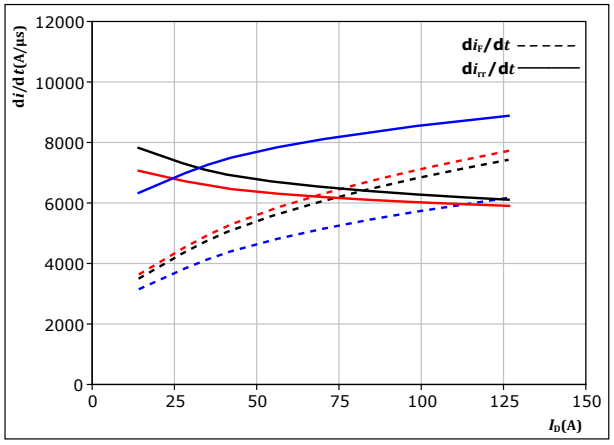
At				
V_{DS} =	350	V		
V_{GS} =	-4/15	V	T_j:	25 °C
I_D =	70	A		125 °C
				150 °C

Boost Switching Characteristics

figure 42. **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)

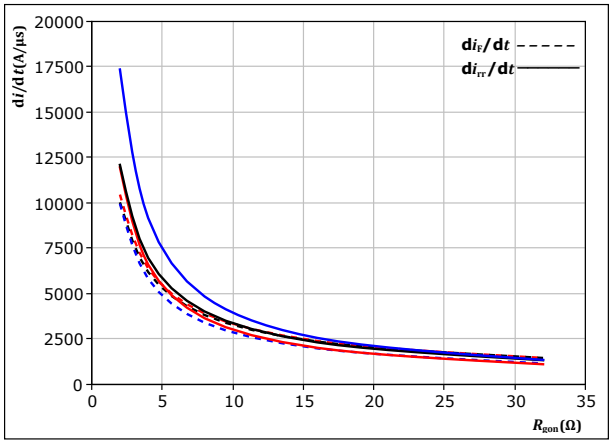


At	V_{DS} =	350	V		
	V_{GS} =	-4/15	V	T_j:	25 °C
	R_{gon} =	4	Ω		125 °C
					150 °C

figure 43. **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_{gon})

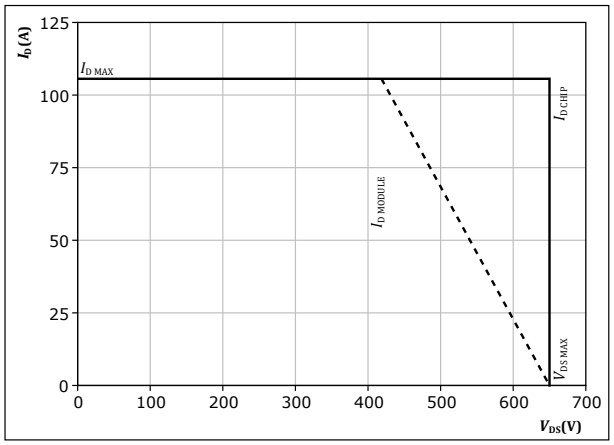


At	V_{DS} =	350	V		
	V_{GS} =	-4/15	V	T_j:	25 °C
	I_D =	70	A		125 °C
					150 °C

figure 44. **MOSFET**

Reverse bias safe operating area

I_D = f(V_{DS})



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

Switching Definitions

figure 45. **MOSFET**

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

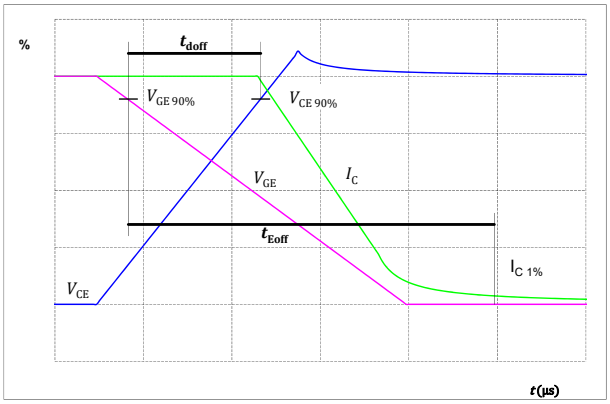


figure 46. **MOSFET**

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

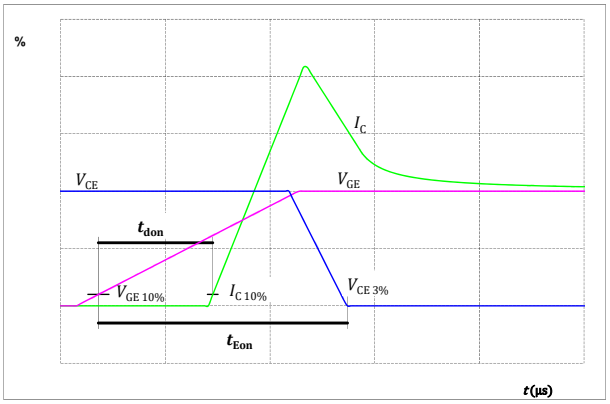


figure 47. **MOSFET**

Turn-off Switching Waveforms & definition of t_f

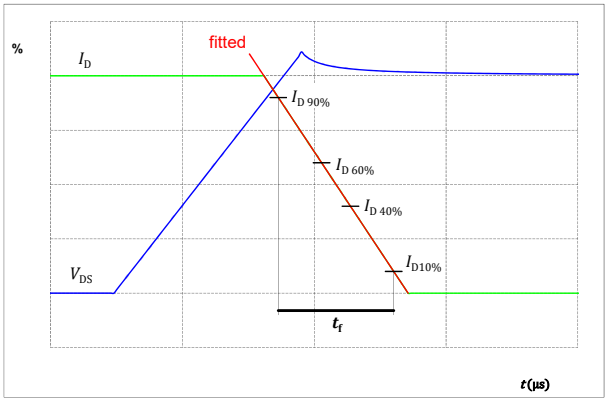
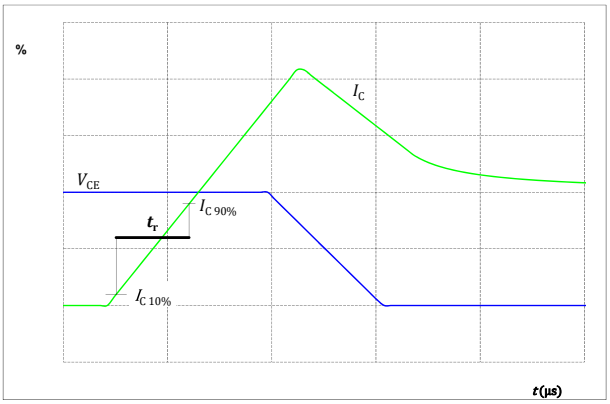


figure 48. **MOSFET**

Turn-on Switching Waveforms & definition of t_r



Switching Definitions

figure 49. **FWD**

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

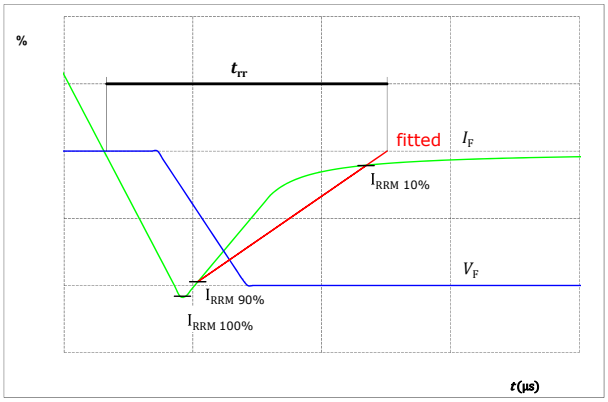


figure 50. **FWD**

Turn-on Switching Waveforms & definition of t_{Qrr} (t_{Qrr} = integrating time for Q_{rr})

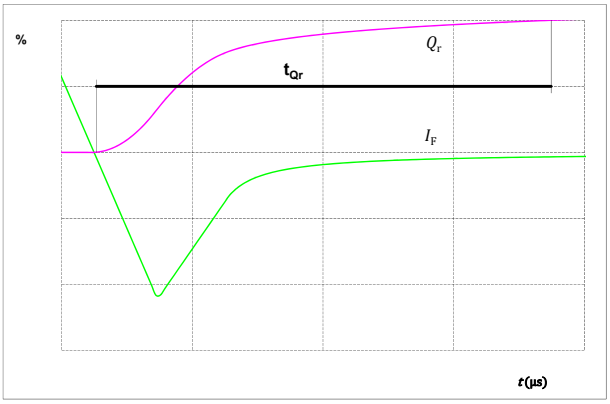
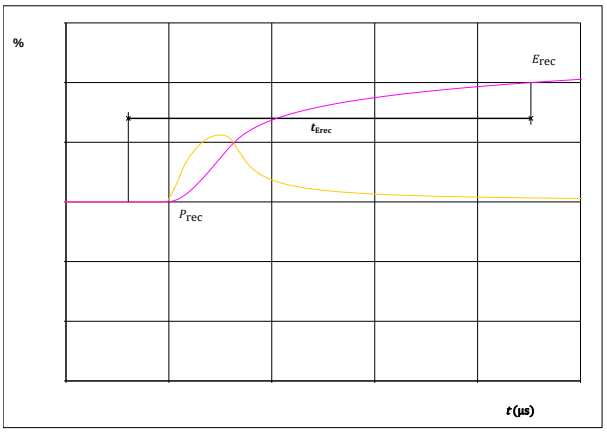


figure 51. **FWD**

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



Ordering Code

Version	Ordering Code
Without thermal paste	10-PY12NMD016ME-PG08F18T
With thermal paste (5,2 W/mK, PTM6000HV)	10-PY12NMD016ME-PG08F18T-/7/
With thermal paste (3,4 W/mK, PSX-P7)	10-PY12NMD016ME-PG08F18T-/3/

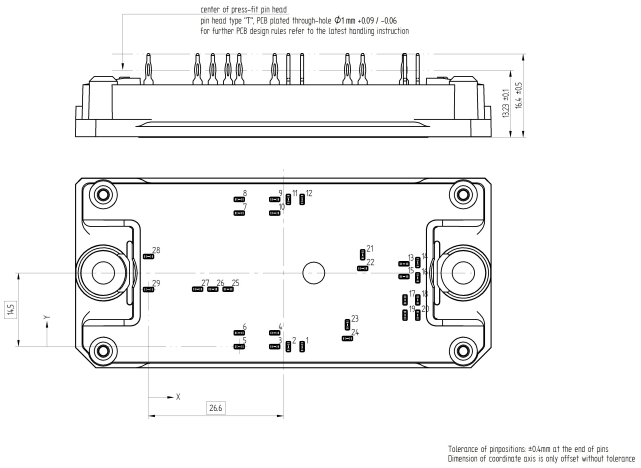
Marking

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

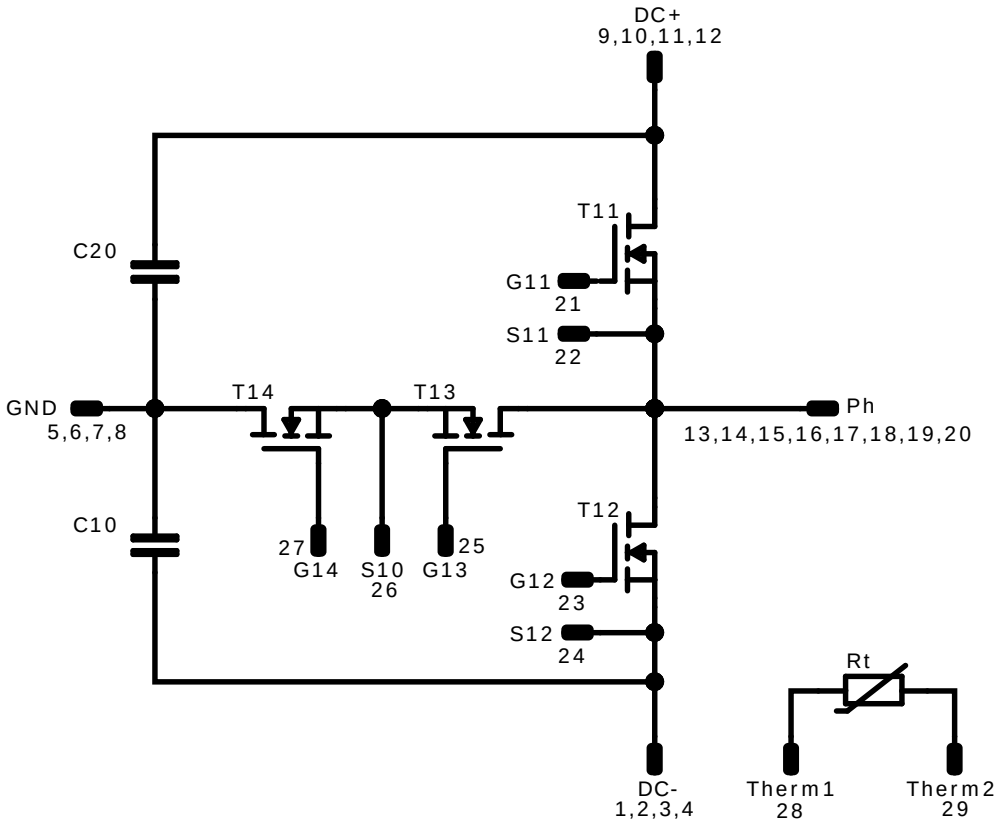
Outline

Pin table [mm]

Pin	X	Y	Function
1	30,3	0	DC-
2	27,6	0	DC-
3	24,9	0	DC-
4	24,9	2,7	DC-
5	17,9	0	GND
6	17,9	2,7	GND
7	17,9	26,3	GND
8	17,9	29	GND
9	24,9	29	DC+
10	24,9	26,3	DC+
11	27,6	29	DC+
12	30,3	29	DC+
13	50,4	16,3	Ph
14	53,1	16,55	Ph
15	50,4	13,8	Ph
16	53,1	13,55	Ph
17	50,6	9,2	Ph
18	53,1	9,2	Ph
19	50,6	6,2	Ph
20	53,1	6,2	Ph
21	42,25	18,1	G11
22	42,25	15,4	S11
23	39,25	4,3	G12
24	39,25	1,6	S12
25	15,7	11,3	G13
26	12,7	11,3	S134
27	9,7	11,3	G14
28	0	17,75	Therm2
29	0	11,25	Therm2



Pinout



Identification

ID	Component	Voltage	Current	Function	Comment
T11, T13	MOSFET	1200 V	16 mΩ	Buck Switch	
T14, T12	MOSFET	650 V	15 mΩ	Boost Switch	
C10, C20	Capacitor	630 V		Capacitor (DC)	
Rt	Thermistor			Thermistor	

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

Handling instruction
Handling instructions for *flow* 1 packages see vincotech.com website.

Package data
Package data for *flow* 1 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 UL 1557 recognized under E192116 up to a junction temperature under switching condition $T_{j,op}$=175°C and up to 3500VAC/1min isolation voltage. For more information see vincotech.com website.

Document No.:	Date:	Modification:	Pages
10-PY12NMD016ME-PG08F18T-D2-14	11 Apr. 2024	Change of Buck and Boost Switch static characteristics	