

Final datasheet
CoolSiC™ 1200 V SiC MOSFET G2 : Silicon Carbide MOSFET with .XT interconnection technology

Features

- $V_{DS} = 1200\text{ V}$ at $T_{vj} = 25^{\circ}\text{C}$
- $I_{DC} = 91\text{ A}$ at $T_C = 100^{\circ}\text{C}$
- $R_{DS(on)} = 12\text{ m}\Omega$ at $V_{GS} = 18\text{ V}$, $T_{vj} = 25^{\circ}\text{C}$
- Very low switching losses
- Overload operation up to $T_{vj} = 200^{\circ}\text{C}$
- Short circuit withstand time $2\text{ }\mu\text{s}$
- Benchmark gate threshold voltage, $V_{GS(th)} = 4.2\text{ V}$
- Robust against parasitic turn on, 0 V turn-off gate voltage can be applied
- Robust body diode for hard commutation
- .XT interconnection technology for best-in-class thermal performance
- Suitable Infineon gate drivers can be found under <https://www.infineon.com/gdfinder>

Potential applications

- General purpose drives (GPD)
- EV Charging
- Online UPS / Industrial UPS
- String inverter
- Energy storage systems (ESS)
- Welding

Product validation

- Qualified for industrial applications according to the relevant tests of JEDEC47/20/22

Description

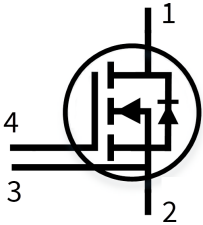
Pin definition:

- Pin 1 – Drain
- Pin 2 – Source
- Pin 3 – Kelvin sense contact
- Pin 4 – Gate

Note: the source and sense pins are not exchangeable, their exchange might lead to malfunction



- Halogen-free
- Green
- Lead-free
- RoHS



Type	Package	Marking
IMZC120R012M2H	PG-TO247-4-U07	12M2H012



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1 Package

Table 1 Characteristic values

Parameter	Symbol	Note or test condition	Values			Unit
			Min.	Typ.	Max.	
Storage temperature	T_{stg}		-55		150	°C
Soldering temperature	T_{sold}	Wave soldering only allowed at leads 1.6 mm (0.063 in.) from case for 10 s			260	°C
Mounting torque	M	M3 screw, Maximum of mounting processes: 3			0.6	Nm
Thermal resistance, junction-ambient	$R_{th(j-a)}$				62	K/W
MOSFET/body diode thermal resistance, junction-case	$R_{th(j-c)}$			0.24	0.31	K/W

2 MOSFET

Table 2 Maximum rated values

Parameter	Symbol	Note or test condition		Values	Unit
Drain-source voltage	V_{DSS}	$T_{vj} \geq 25\text{ °C}$		1200	V
Continuous DC drain current for $R_{th(j-c,max)}$, limited by $T_{vj(max)}$	I_{DDC}	$V_{GS} = 18\text{ V}$	$T_c = 25\text{ °C}$	129	A
			$T_c = 100\text{ °C}$	91	
Peak drain current, t_p limited by $T_{vj(max)}$ ¹⁾	I_{DM}	$V_{GS} = 18\text{ V}$		455	A
Gate-source voltage, max. transient voltage	V_{GS}	$t_p \leq 0.5\text{ }\mu\text{s}$, $D < 0.01$		-10...25	V
Gate-source voltage, max. static voltage ²⁾	V_{GS}			-7...23	V
Avalanche energy, single pulse	E_{AS}	$I_D = 57\text{ A}$, $V_{DD} = 50\text{ V}$, $L = 0.4\text{ mH}$, $T_{vj(start)} = 25\text{ °C}$		712	mJ
Avalanche energy, repetitive	E_{AR}	$I_D = 57\text{ A}$, $V_{DD} = 50\text{ V}$, $L = 2.2\text{ }\mu\text{H}$, $T_{vj(start)} = 25\text{ °C}$		3.56	mJ
Short-circuit withstand time	t_{SC}	$V_{DD} \leq 800\text{ V}$, $V_{DS,peak} < 1200\text{ V}$, $V_{GS(on)} = 15\text{ V}$, $T_{vj(start)} = 25\text{ °C}$		2	μs
Power dissipation, limited by $T_{vj(max)}$	P_{tot}		$T_c = 25\text{ °C}$	480	W
			$T_c = 100\text{ °C}$	240	

1) Verified by design.

2) The maximum gate-source voltage in the application design should be in accordance to IPC-9592B.

Table 3 Recommended values

Parameter	Symbol	Note or test condition	Values	Unit
Recommended turn-on gate voltage	$V_{GS(on)}$		15...18	V
Recommended turn-off gate voltage	$V_{GS(off)}$		-5...0	V

Table 4 Characteristic values

Parameter	Symbol	Note or test condition	Values			Unit
			Min.	Typ.	Max.	
Drain-source on-state resistance	$R_{DS(on)}$	$I_D = 57\text{ A}$		$T_{vj} = 25\text{ °C}$, $V_{GS(on)} = 18\text{ V}$	12	mΩ
				$T_{vj} = 150\text{ °C}$, $V_{GS(on)} = 18\text{ V}$	25	
				$T_{vj} = 175\text{ °C}$, $V_{GS(on)} = 18\text{ V}$	29	
				$T_{vj} = 25\text{ °C}$, $V_{GS(on)} = 15\text{ V}$	15	
Gate-source threshold voltage	$V_{GS(th)}$	$I_D = 17.8\text{ mA}$, $V_{DS} = V_{GS}$ (tested after 1 ms pulse at $V_{GS} = 20\text{ V}$)		$T_{vj} = 25\text{ °C}$	3.5	V
				$T_{vj} = 175\text{ °C}$	4.2	
Zero gate-voltage drain current	I_{DSS}	$V_{DS} = 1200\text{ V}$, $V_{GS} = 0\text{ V}$		$T_{vj} = 25\text{ °C}$	500	μA
				$T_{vj} = 175\text{ °C}$	9	
Gate leakage current	I_{GSS}	$V_{DS} = 0\text{ V}$		$V_{GS} = 23\text{ V}$	120	nA
				$V_{GS} = -10\text{ V}$	-120	
Forward transconductance	g_{fs}	$I_D = 57\text{ A}$, $V_{DS} = 20\text{ V}$		38		S
Internal gate resistance	$R_{G,int}$	$f = 1\text{ MHz}$, $V_{AC} = 25\text{ mV}$		4		Ω
Input capacitance	C_{iss}	$V_{DS} = 800\text{ V}$, $V_{GS} = 0\text{ V}$, $f = 100\text{ kHz}$, $V_{AC} = 25\text{ mV}$		4050		pF
Output capacitance	C_{oss}	$V_{DS} = 800\text{ V}$, $V_{GS} = 0\text{ V}$, $f = 100\text{ kHz}$, $V_{AC} = 25\text{ mV}$		176		pF
Reverse transfer capacitance	C_{rss}	$V_{DS} = 800\text{ V}$, $V_{GS} = 0\text{ V}$, $f = 100\text{ kHz}$, $V_{AC} = 25\text{ mV}$		15		pF
C_{oss} stored energy	E_{oss}	Calculated based on $C_{oss} = f(V_{DD})$		74		μJ
Output charge	Q_{oss}	Calculated based on $C_{oss} = f(V_{DD})$		275		nC
Effective output capacitance, energy related	$C_{o(er)}$	$V_{DS} = 0...800\text{ V}$, $V_{GS} = 0\text{ V}$, Calculated based on E_{oss}		231		pF
Effective output capacitance, time related	$C_{o(tr)}$	$I_D = \text{constant}$, $V_{DS} = 0...800\text{ V}$, $V_{GS} = 0\text{ V}$, Calculated based on Q_{oss}		344		pF
Total gate charge	Q_G	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, turn-on pulse		124		nC

(table continues...)

Table 4 (continued) **Characteristic values**

Parameter	Symbol	Note or test condition	Values			Unit
			Min.	Typ.	Max.	
Plateau gate charge	$Q_{GS(pl)}$	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, turn-on pulse		26		nC
Gate-drain charge	Q_{GD}	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, turn-on pulse		34		nC
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, $R_{G,ext} = 2.3\ \Omega$, $L_\sigma = 12\text{ nH}$, diode: body diode at $V_{GS} = 0\text{ V}$	$T_{vj} = 25\text{ °C}$	16		ns
			$T_{vj} = 175\text{ °C}$	12.4		
Rise time	t_r	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, $R_{G,ext} = 2.3\ \Omega$, $L_\sigma = 12\text{ nH}$, diode: body diode at $V_{GS} = 0\text{ V}$	$T_{vj} = 25\text{ °C}$	10.1		ns
			$T_{vj} = 175\text{ °C}$	9		
Turn-off delay time	$t_{d(off)}$	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, $R_{G,ext} = 2.3\ \Omega$, $L_\sigma = 12\text{ nH}$, diode: body diode at $V_{GS} = 0\text{ V}$	$T_{vj} = 25\text{ °C}$	35.2		ns
			$T_{vj} = 175\text{ °C}$	41.2		
Fall time	t_f	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, $R_{G,ext} = 2.3\ \Omega$, $L_\sigma = 12\text{ nH}$, diode: body diode at $V_{GS} = 0\text{ V}$	$T_{vj} = 25\text{ °C}$	15.1		ns
			$T_{vj} = 175\text{ °C}$	17.8		
Turn-on energy	E_{on}	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, $R_{G,ext} = 2.3\ \Omega$, $L_\sigma = 12\text{ nH}$, diode: body diode at $V_{GS} = 0\text{ V}$	$T_{vj} = 25\text{ °C}$	580		μJ
			$T_{vj} = 175\text{ °C}$	900		
Turn-off energy	E_{off}	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, $R_{G,ext} = 2.3\ \Omega$, $L_\sigma = 12\text{ nH}$, diode: body diode at $V_{GS} = 0\text{ V}$	$T_{vj} = 25\text{ °C}$	370		μJ
			$T_{vj} = 175\text{ °C}$	530		
Total switching energy ¹⁾	E_{tot}	$V_{DD} = 800\text{ V}$, $I_D = 57\text{ A}$, $V_{GS} = 0/18\text{ V}$, $R_{G,ext} = 2.3\ \Omega$, $L_\sigma = 12\text{ nH}$, diode: body diode at $V_{GS} = 0\text{ V}$	$T_{vj} = 25\text{ °C}$	1180		μJ
			$T_{vj} = 175\text{ °C}$	2080		

(table continues...)

Table 4 (continued) Characteristic values

Parameter	Symbol	Note or test condition	Values			Unit
			Min.	Typ.	Max.	
Turn-on energy at -5 V	E_{on}	$V_{DD} = 800 \text{ V}$, $I_D = 57 \text{ A}$, $V_{GS} = -5/18 \text{ V}$, $R_{G,ext} = 2.3 \text{ } \Omega$, $L_\sigma = 12 \text{ nH}$, diode: body diode at $V_{GS} = -5 \text{ V}$	$T_{vj} = 25 \text{ } ^\circ\text{C}$	557		μJ
			$T_{vj} = 175 \text{ } ^\circ\text{C}$	873		
Turn-off energy at -5 V	E_{off}	$V_{DD} = 800 \text{ V}$, $I_D = 57 \text{ A}$, $V_{GS} = -5/18 \text{ V}$, $R_{G,ext} = 2.3 \text{ } \Omega$, $L_\sigma = 12 \text{ nH}$, diode: body diode at $V_{GS} = -5 \text{ V}$	$T_{vj} = 25 \text{ } ^\circ\text{C}$	167		μJ
			$T_{vj} = 175 \text{ } ^\circ\text{C}$	194		
Total switching energy at -5 V ¹⁾	E_{tot}	$V_{DD} = 800 \text{ V}$, $I_D = 57 \text{ A}$, $V_{GS} = -5/18 \text{ V}$, $R_{G,ext} = 2.3 \text{ } \Omega$, $L_\sigma = 12 \text{ nH}$, diode: body diode at $V_{GS} = -5 \text{ V}$	$T_{vj} = 25 \text{ } ^\circ\text{C}$	953		μJ
			$T_{vj} = 175 \text{ } ^\circ\text{C}$	1839		
Virtual junction temperature	T_{vj}		-55		175	$^\circ\text{C}$
Virtual junction temperature	$T_{vj(over)}$	overload, cumulative max. 100 h ²⁾			200	$^\circ\text{C}$

1) including E_{fr}

2) up to 5000 cycles. Maximum ΔT limited to 100 K.

Note: The chip technology was characterized up to 200 kV/ μs . The measured dV/dt was limited by measurement test setup and package.

Characteristics at $T_{vj} = 25^\circ\text{C}$, unless otherwise specified.

3 Body diode (MOSFET)

Table 5 Maximum rated values

Parameter	Symbol	Note or test condition		Values	Unit
Drain-source voltage	V_{DSS}	$T_{vj} \geq 25 \text{ } ^\circ\text{C}$		1200	V
Continuous reverse drain current for $R_{th(j-c,max)}$, limited by $T_{vj(max)}$	I_{SDC}	$V_{GS} = 0 \text{ V}$	$T_c = 25 \text{ } ^\circ\text{C}$	92	A
			$T_c = 100 \text{ } ^\circ\text{C}$	51	
Peak reverse drain current, t_p limited by $T_{vj(max)}$	I_{SM}	$V_{GS} = 0 \text{ V}$		273	A

Table 6 Characteristic values

Parameter	Symbol	Note or test condition	Values			Unit
			Min.	Typ.	Max.	
Drain-source reverse voltage	V_{SD}	$I_{SD} = 57 \text{ A}$, $V_{GS} = 0 \text{ V}$	$T_{vj} = 25 \text{ °C}$	4.2	5.5	V
			$T_{vj} = 100 \text{ °C}$	4.11		
			$T_{vj} = 175 \text{ °C}$	4.05		
MOSFET forward recovery charge	Q_{fr}	$V_{DD} = 800 \text{ V}$, $I_{SD} = 57 \text{ A}$, $V_{GS} = 0 \text{ V}$, $R_{GS(on)} = 2.3 \text{ } \Omega$, Q_{fr} includes also Q_C	$T_{vj} = 25 \text{ °C}$	0.43		μC
			$T_{vj} = 175 \text{ °C}$	1.36		
MOSFET peak forward recovery current	I_{frm}	$V_{DD} = 800 \text{ V}$, $I_{SD} = 57 \text{ A}$, $V_{GS} = 0 \text{ V}$, $R_{GS(on)} = 2.3 \text{ } \Omega$, Q_{fr} includes also Q_C	$T_{vj} = 25 \text{ °C}$	46.3		A
			$T_{vj} = 175 \text{ °C}$	79.6		
MOSFET forward recovery energy	E_{fr}	$V_{DD} = 800 \text{ V}$, $I_{SD} = 57 \text{ A}$, $V_{GS} = 0 \text{ V}$, $R_{GS(on)} = 2.3 \text{ } \Omega$, Q_{fr} includes also Q_C	$T_{vj} = 25 \text{ °C}$	230		μJ
			$T_{vj} = 175 \text{ °C}$	650		
MOSFET forward recovery energy at -5 V	E_{fr}	$V_{DD} = 800 \text{ V}$, $I_{SD} = 57 \text{ A}$, $V_{GS} = -5 \text{ V}$, $R_{GS(on)} = 2.3 \text{ } \Omega$, Q_{fr} includes also Q_C	$T_{vj} = 25 \text{ °C}$	229		μJ
			$T_{vj} = 175 \text{ °C}$	772		
Virtual junction temperature	T_{vj}		-55		175	$^{\circ}\text{C}$
Virtual junction temperature	$T_{vj(over)}$	overload, cumulative max. 100 h ¹⁾			200	$^{\circ}\text{C}$

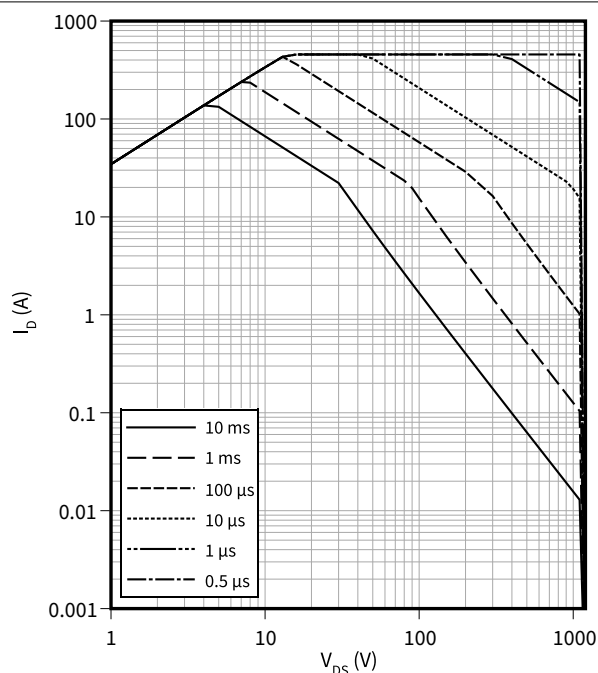
1) up to 5000 cycles. Maximum ΔT limited to 100 K.

4 Characteristics diagrams

Safe operating area (SOA)

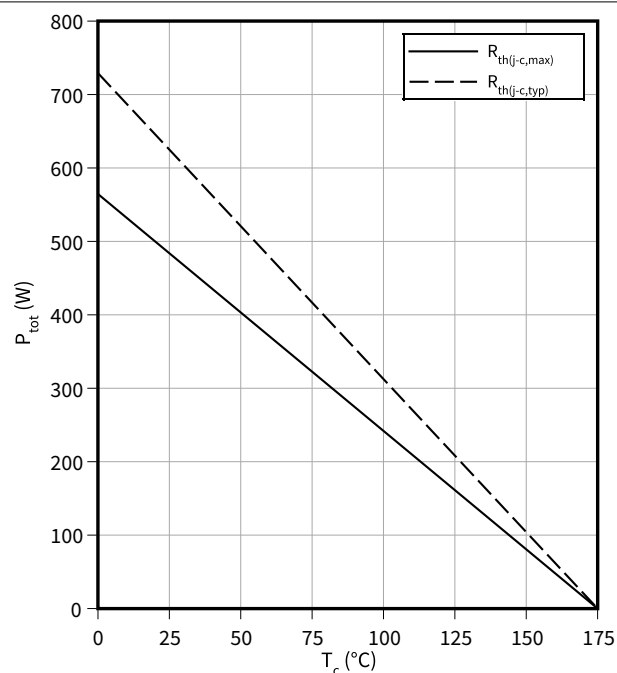
$$I_D = f(V_{DS})$$

$$T_{vj} \leq 175\text{ °C}, T_c = 25\text{ °C}$$



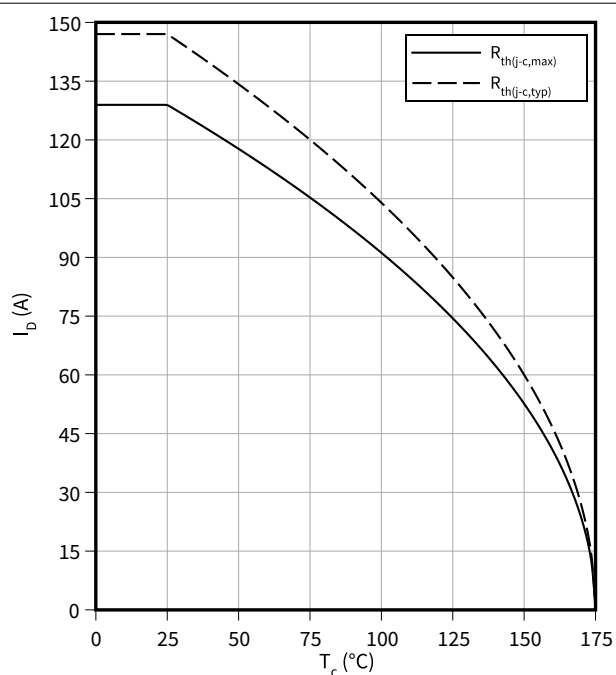
Power dissipation as a function of case temperature

$$P_{tot} = f(T_c)$$



Maximum DC drain to source current as a function of case temperature limited by bond wire

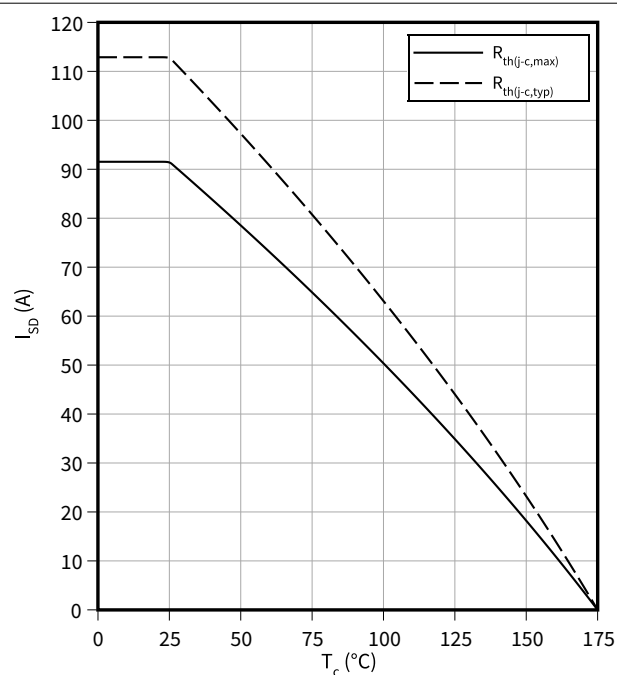
$$I_D = f(T_c)$$



Maximum source to drain current as a function of case temperature limited by bond wire

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

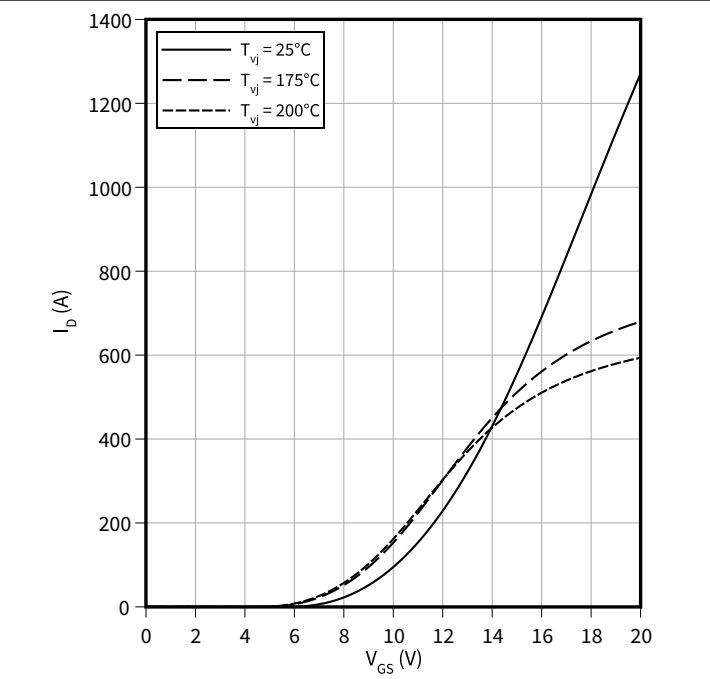
$$V_{GS} = 0\text{ V}$$



4 Characteristics diagrams

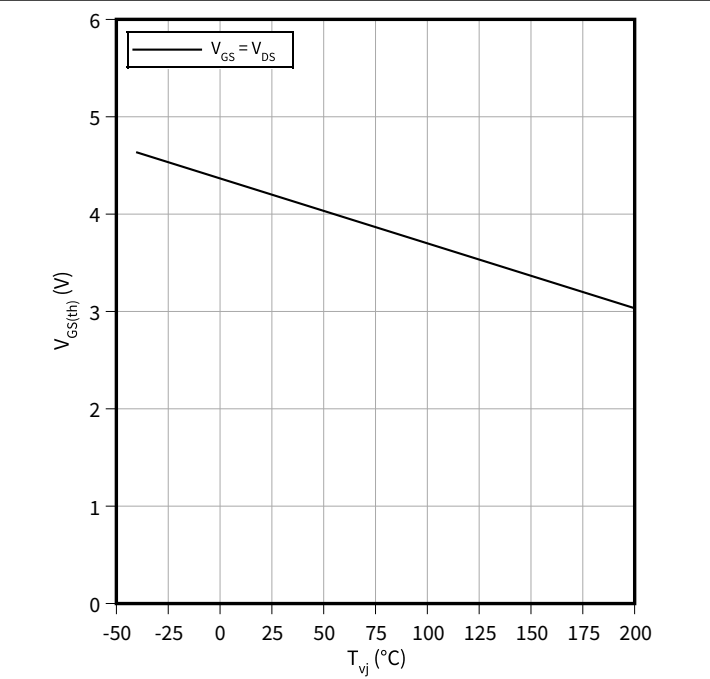
Typical transfer characteristic

$I_D = f(V_{GS})$
 $V_{DS} = 20\text{ V}$, $t_p = 20\text{ }\mu\text{s}$



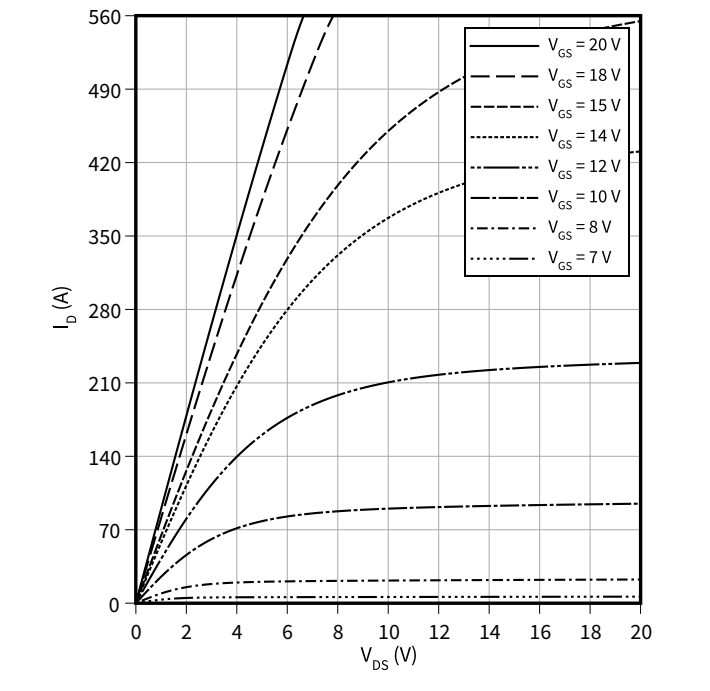
Typical gate-source threshold voltage as a function of junction temperature

$V_{GS(th)} = f(T_{vj})$
 $I_D = 17.8\text{ mA}$



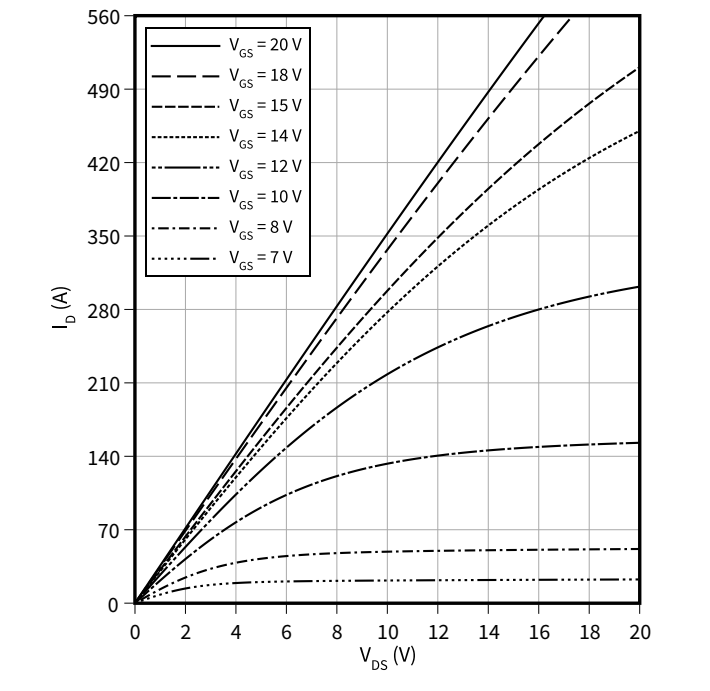
Typical output characteristic, V_{GS} as a parameter

$I_D = f(V_{DS})$
 $T_{vj} = 25\text{ }^\circ\text{C}$, $t_p = 20\text{ }\mu\text{s}$



Typical output characteristic, V_{GS} as a parameter

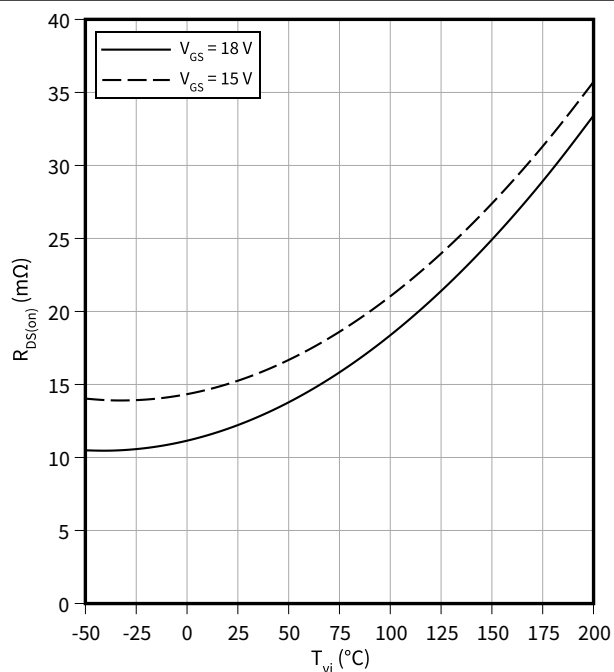
$I_D = f(V_{DS})$
 $T_{vj} = 175\text{ }^\circ\text{C}$, $t_p = 20\text{ }\mu\text{s}$



4 Characteristics diagrams

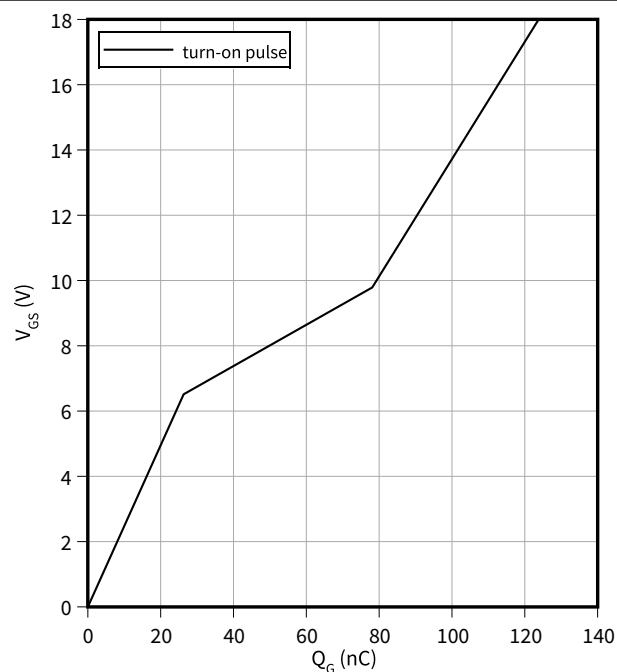
Typical on-state resistance as a function of junction temperature

$R_{DS(on)} = f(T_{vj})$
 $I_D = 57 \text{ A}$



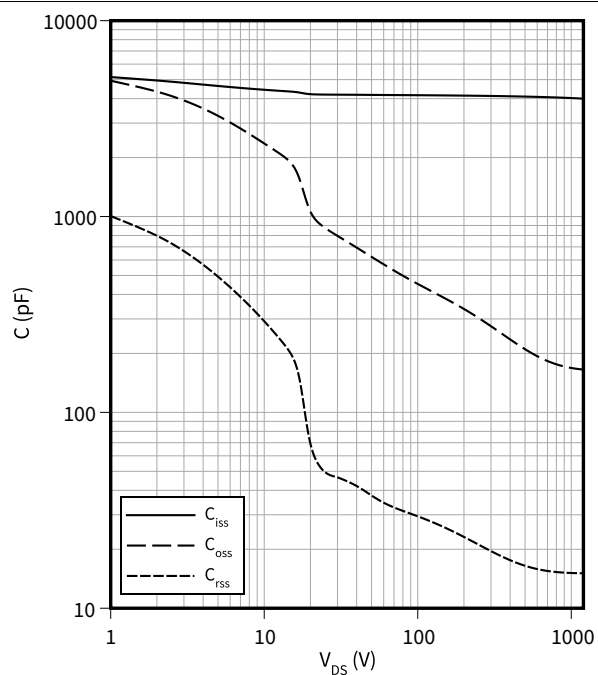
Typical gate charge

$V_{GS} = f(Q_G)$
 $I_D = 57 \text{ A}, V_{DS} = 800 \text{ V}$



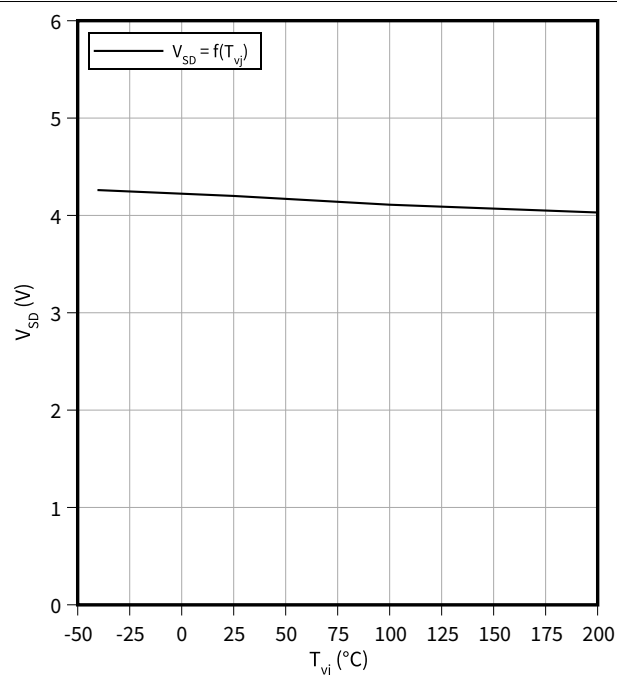
Typical capacitance as a function of drain-source voltage

$C = f(V_{DS})$
 $f = 100 \text{ kHz}, V_{GS} = 0 \text{ V}$



Typical reverse drain voltage as a function of junction temperature

$V_{SD} = f(T_{vj})$
 $I_{SD} = 57 \text{ A}, V_{GS} = 0 \text{ V}$

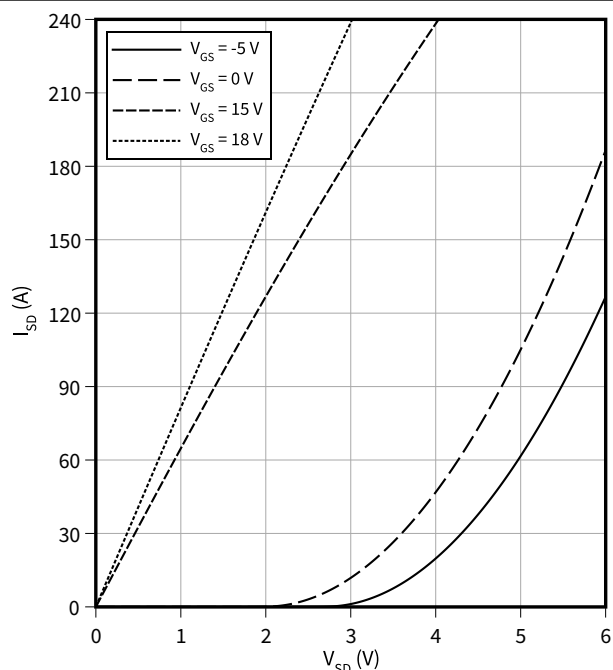


4 Characteristics diagrams

Typical reverse drain current as a function of reverse drain voltage, V_{GS} as a parameter

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

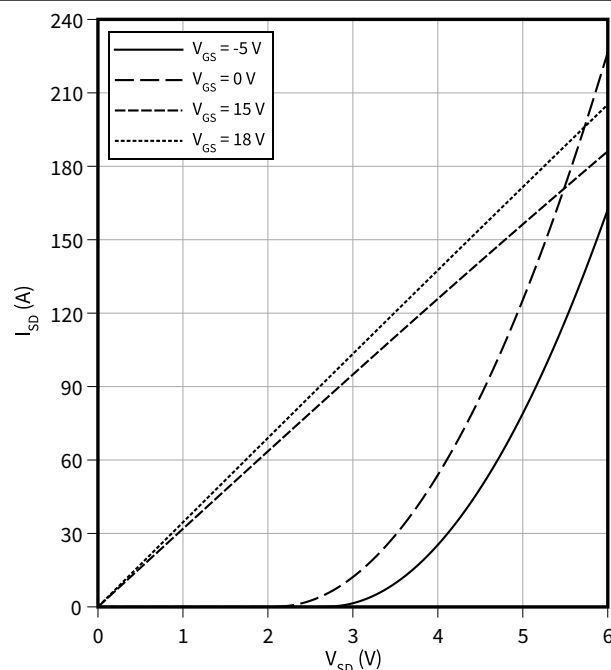
$T_{vj} = 25\text{ °C}$, $t_p = 20\text{ }\mu\text{s}$



Typical reverse drain current as a function of reverse drain voltage, V_{GS} as a parameter

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

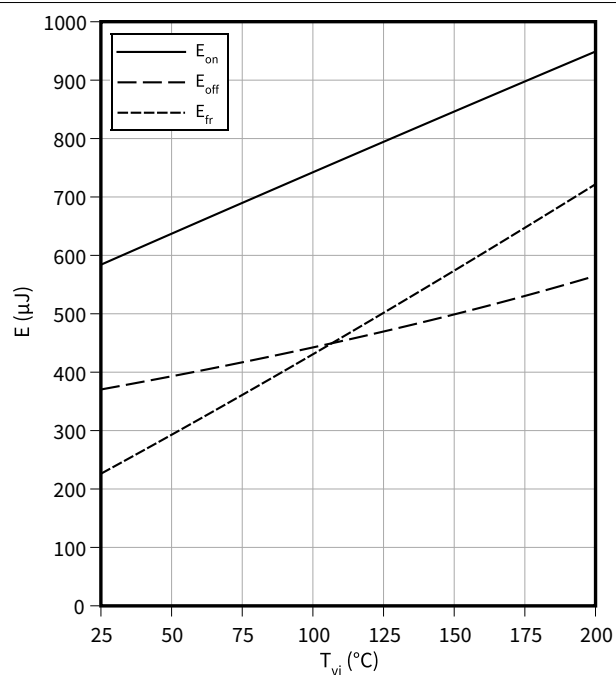
$T_{vj} = 175\text{ °C}$, $t_p = 20\text{ }\mu\text{s}$



Typical switching energy as a function of junction temperature, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0\text{ V}$

$$E = f(T_{vj})$$

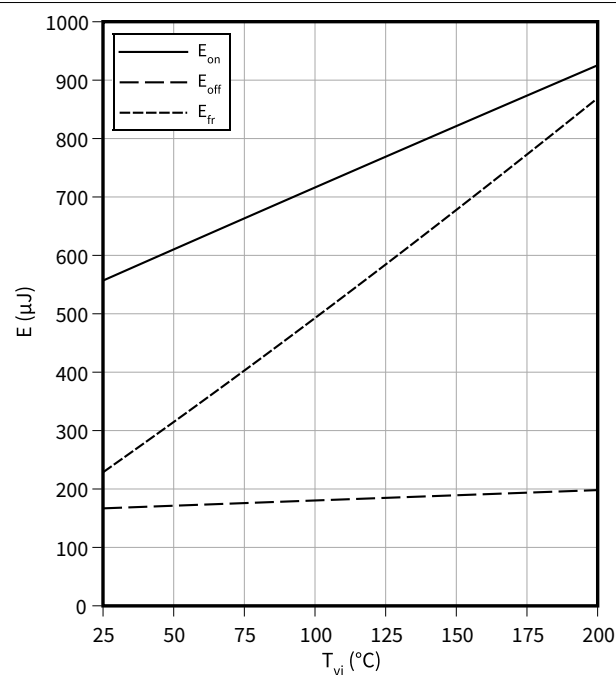
$V_{GS} = 0/18\text{ V}$, $I_D = 57\text{ A}$, $R_{G,ext} = 2.3\text{ }\Omega$, $V_{DD} = 800\text{ V}$



Typical switching energy as a function of junction temperature, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = -5\text{ V}$

$$E = f(T_{vj})$$

$V_{GS} = -5/18\text{ V}$, $I_D = 57\text{ A}$, $R_{G,ext} = 2.3\text{ }\Omega$, $V_{DD} = 800\text{ V}$

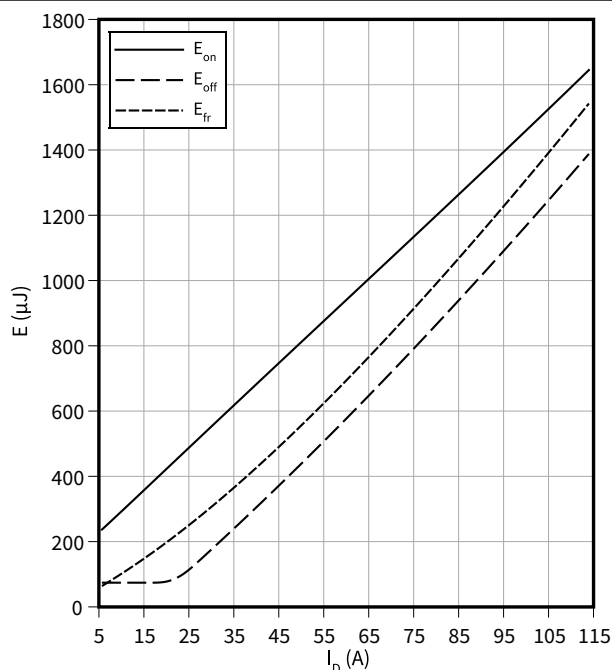


4 Characteristics diagrams

Typical switching energy as a function of drain current, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0$ V

$$E = f(I_D)$$

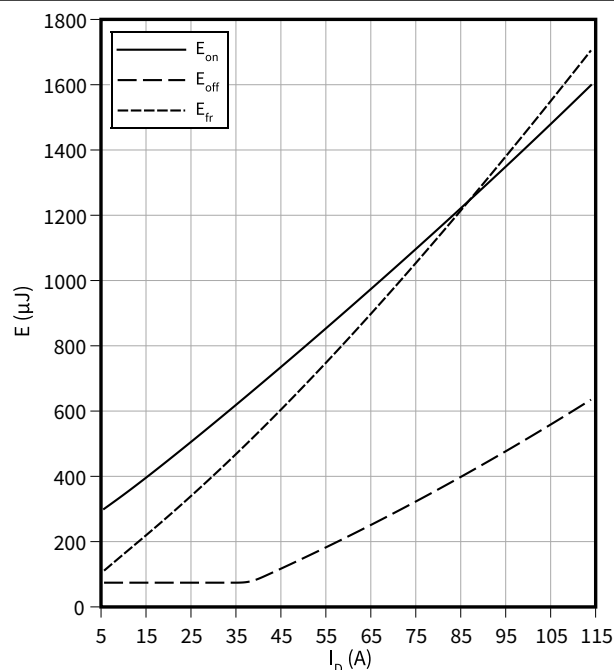
$V_{GS} = 0/18$ V, $T_{vj} = 175$ °C, $R_{G,ext} = 2.3$ Ω , $V_{DD} = 800$ V



Typical switching energy as a function of drain current, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = -5$ V

$$E = f(I_D)$$

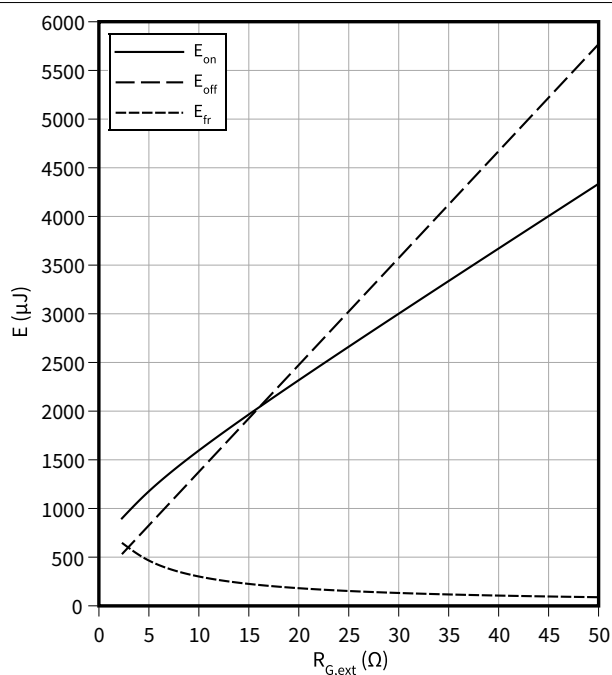
$V_{GS} = -5/18$ V, $T_{vj} = 175$ °C, $R_{G,ext} = 2.3$ Ω , $V_{DD} = 800$ V



Typical switching energy as a function of gate resistance, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0$ V

$$E = f(R_{G,ext})$$

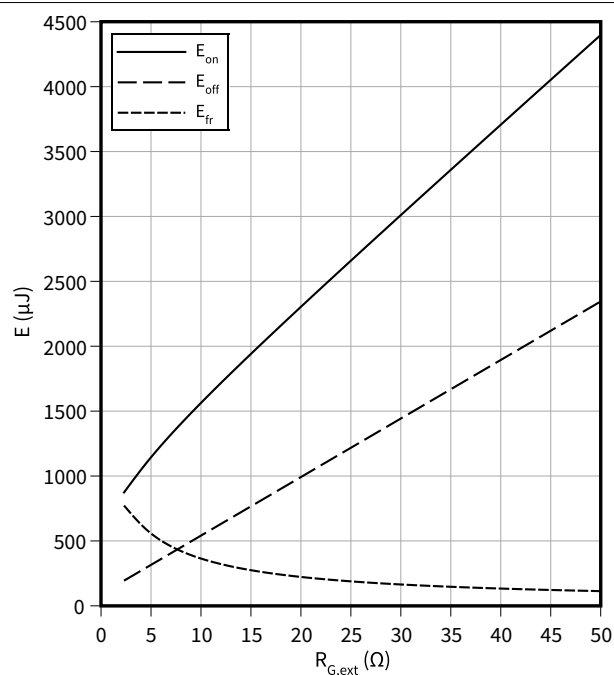
$V_{GS} = 0/18$ V, $I_D = 57$ A, $T_{vj} = 175$ °C, $V_{DD} = 800$ V



Typical switching energy as a function of gate resistance, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = -5$ V

$$E = f(R_{G,ext})$$

$V_{GS} = -5/18$ V, $I_D = 57$ A, $T_{vj} = 175$ °C, $V_{DD} = 800$ V

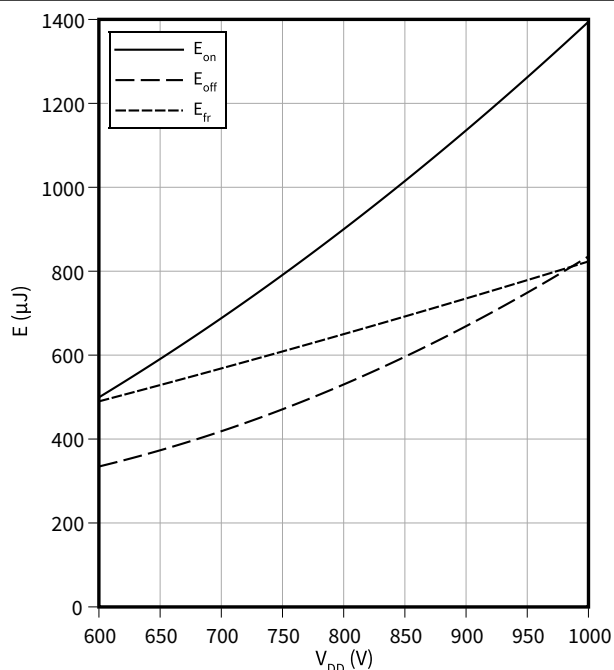


4 Characteristics diagrams

Typical switching energy as a function of DC link voltage, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0$ V

$$E = f(V_{DD})$$

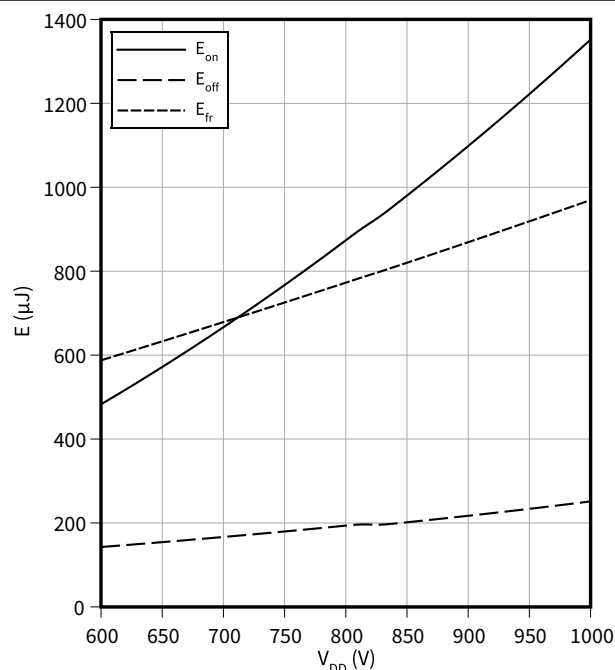
$V_{GS} = 0/18$ V, $I_D = 57$ A, $T_{vj} = 175$ °C, $R_{G,ext} = 2.3$ Ω



Typical switching energy as a function of DC link voltage, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = -5$ V

$$E = f(V_{DD})$$

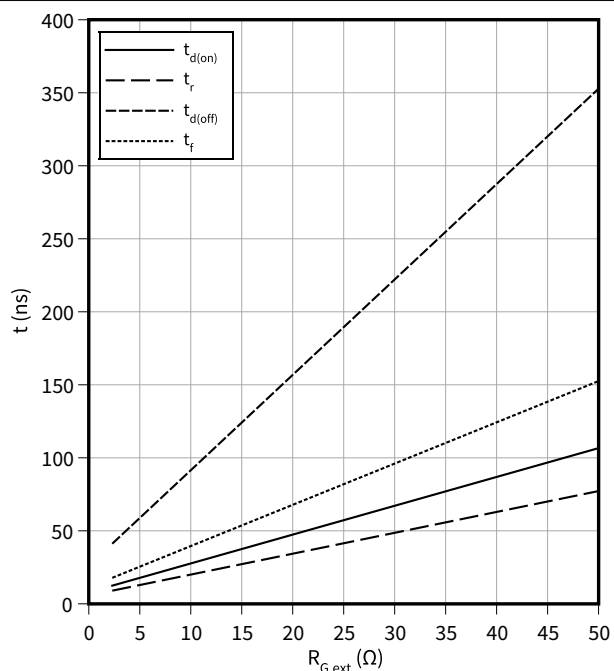
$V_{GS} = -5/18$ V, $I_D = 57$ A, $T_{vj} = 175$ °C, $R_{G,ext} = 2.3$ Ω



Typical switching times as a function of gate resistance, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0$ V

$$t = f(R_{G,ext})$$

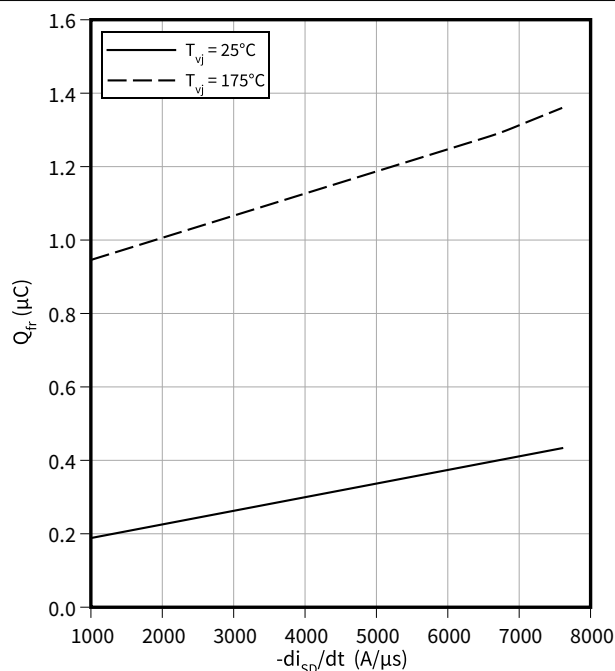
$V_{GS} = 0/18$ V, $I_D = 57$ A, $T_{vj} = 175$ °C, $V_{DD} = 800$ V



Typical reverse recovery charge as a function of reverse drain current slope, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0$ V

$$Q_{fr} = f(-di_{SD}/dt)$$

$V_{GS} = 0/18$ V, $I_{SD} = 57$ A, $V_{DD} = 800$ V



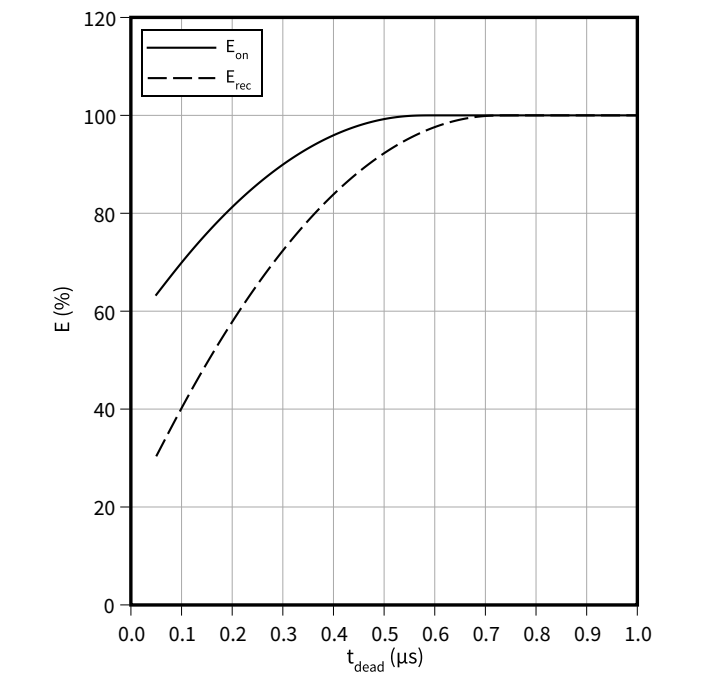
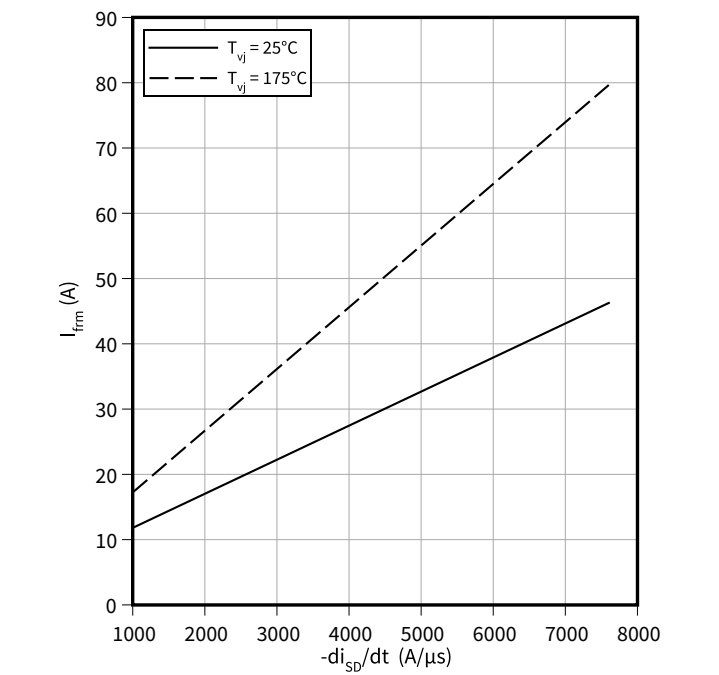
4 Characteristics diagrams

Typical reverse recovery current as a function of reverse drain current slope, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0\text{ V}$

$I_{frm} = f(-di_{SD}/dt)$
 $V_{GS} = 0/18\text{ V}, I_{SD} = 57\text{ A}, V_{DD} = 800\text{ V}$

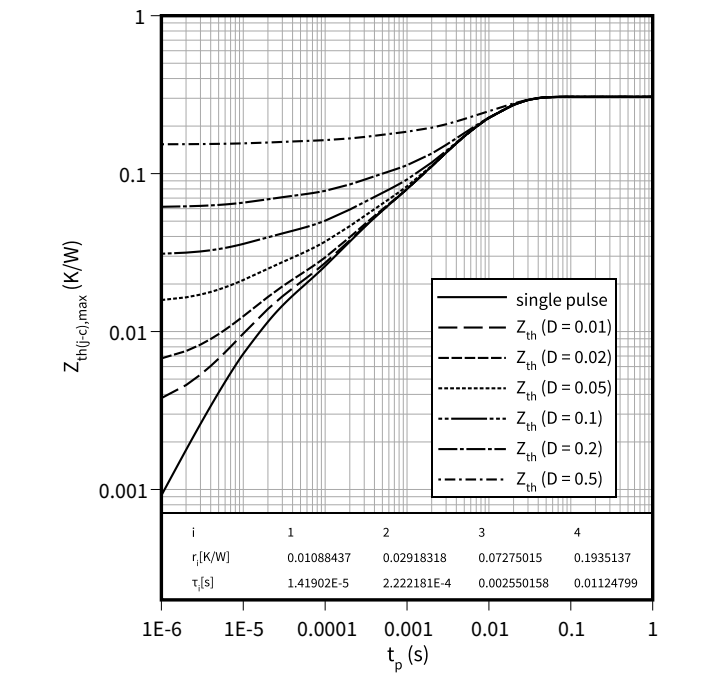
Typical switching energy as a function of dead time / blanking time, test circuit in Fig. F, 2nd device own body diode: $V_{GS} = 0\text{ V}$

$E = f(t_{dead})$
 $I_D = 57\text{ A}, V_{GS} = 0/18\text{ V}, T_{vj} = 175\text{ °C}, R_{G,ext} = 2.3\text{ }\Omega$
 $V_{DD} = 800\text{ V}$

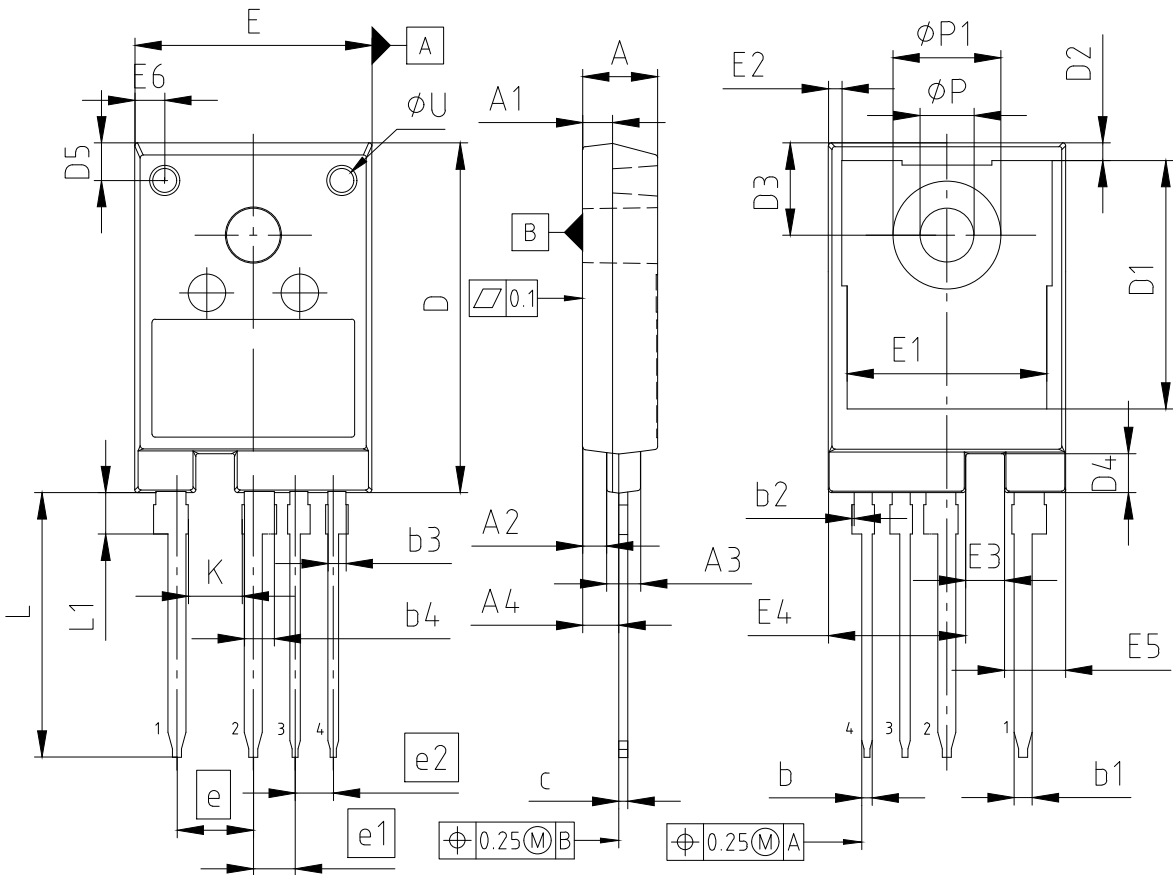


Max. transient thermal impedance (MOSFET/diode)

$Z_{th(j-c),max} = f(t_p)$
 $D = t_p/T$



5 Package outlines



PACKAGE - GROUP NUMBER: PG-T0247-4-U07					
DIMENSIONS	MILLIMETERS		DIMENSIONS	MILLIMETERS	
	MIN.	MAX.		MIN.	MAX.
A	4.90	5.10	E	15.60	16.00
A1	1.90	2.10	E1	13.10	13.50
A2	1.50	1.70	E2	0.60	1.20
A3	2.16	2.36	E3	2.48	2.68
A4	2.31	2.51	E4	9.05	9.25
b	0.60	0.80	E5	3.97	4.17
b1	1.10	1.30	E6	1.80	2.20
b2	---	0.15	e	5.08	
b3	1.10	1.30	e1	2.79	
b4	1.90	2.10	e2	2.54	
c	0.50	0.70	K	3.50	---
D	23.10	23.50	L	17.50	17.80
D1	16.25	16.85	L1	2.61	2.91
D2	0.97	1.37	N	4	
D3	6.00	6.30	ØP1	7.00	7.40
D4	2.50	2.70	ØP	3.50	3.70
D5	2.30	2.70	ØU	1.40	1.80

NOTES: DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSION OR GATE BURRS
N IS THE NUMBER OF LEADS

Figure 1

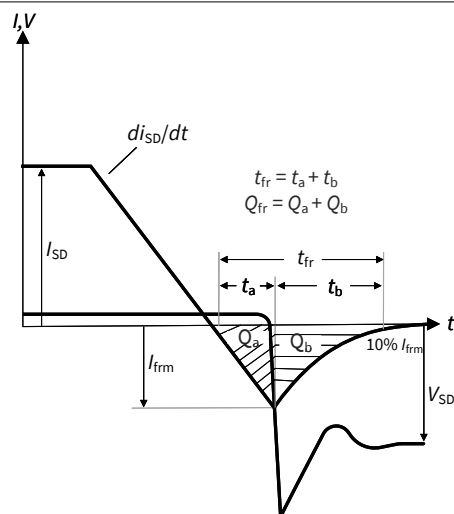
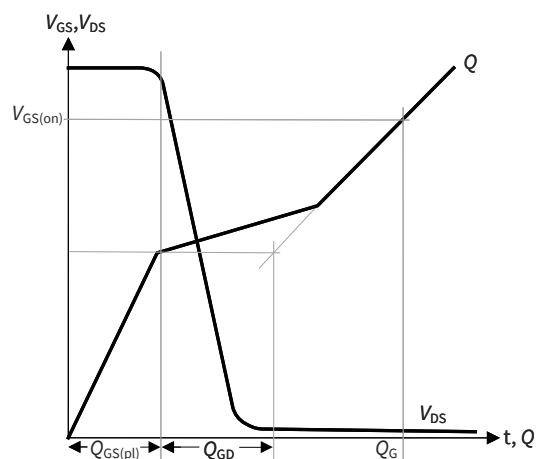
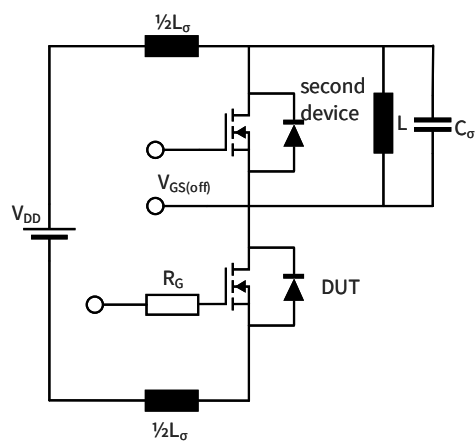


Figure B. **Definition of body diode switching characteristics**

Figure D. **Definition of QGD**Figure F. **Dynamic test circuit**

Parasitic inductance L_{σ} ,
Parasitic capacitor C_{σ} ,

Revision history

Document revision	Date of release	Description of changes
0.10	2024-09-06	Preliminary datasheet
1.00	2024-09-27	Final datasheet
1.10	2025-02-04	Updated “Potential Applications” on Page 1 Correction of switching parameters in Table 4 and corresponding graphs Correction of body diode characteristic values in Table 6 and corresponding graphs Editorial changes
1.20	2025-07-04	Increased I_{DM} in Table 2 Added switching information for $V_{GS} = -5/18\text{ V}$ in Table 5 and 6 and corresponding diagrams Added I_{SDC} in Table 5 Added SOA diagram on page 8 Added diagram $E = f(V_{DD}) @ V_{GS} = 0/18\text{ V}$ Added diagram $E = f(V_{DD}) @ V_{GS} = -5/18\text{ V}$ Editorial changes

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