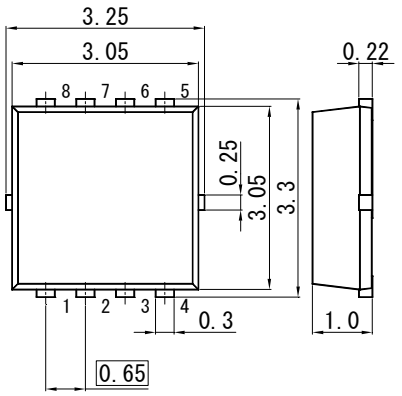
Panasonic

SK8403200L

Silicon N-channel MOSFET

For Li-ion battery / for DC-DC converter

Unit: mm



1. Source
2. Source
3. Source
4. Gate
5. Drain
6. Drain
7. Drain
8. Drain

Panasonic	HSSO8-F1-B
JEITA	—
Code	—

■ Features

- Low drain-source ON resistance:RDS(on)typ. = 3.7 mΩ (VGS = 10 V)
- Halogen-free / RoHS compliant
  (EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

■ Marking Symbol: 1A

■ Packaging

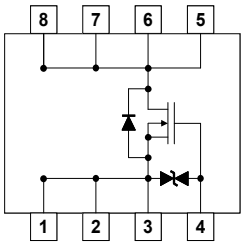
Embossed type (Thermo-compression sealing) : 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings Ta = 25 °C

Parameter		Symbol	Rating	Unit
Drain-source Voltage		VDSS	30	V
Gate-source Voltage		VGSS	±20	V
Drain current		ID	23	A
Drain current(Pulsed) t=1ms		IDp *1 *2	81.5	A
Total Power Dissipation	Ta = 25 °C, t = 10 s	PD *1 *2	2	W
	Tc = 25 °C	PD *1 *2	30	
Thermal Resistance	Channel to Ambient	Rth(ch-a)	62.5	°C / W
	Channel to Case	Rth(ch-c)	4.1	
Channel Temperature		Tch	150	°C
Storage Temperature Range		Tstg	-55 to +150	°C

Note *1 Device mounted on a glass-epoxy board in Figure 1
*2 Pulse test: Ensure that the channel temperature does not exceed 150 °C

Internal Connection



Pin Name

1. Source
2. Source
3. Source
4. Gate
5. Drain
6. Drain
7. Drain
8. Drain

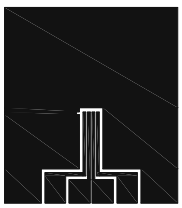


Figure 1 FR4 Glass-Epoxy Board
25.4 mm × 25.4 mm × 0.8 mm

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■ Electrical Characteristics Ta = 25 °C ± 3 °C

Static Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	VDSS	ID = 1.0 mA, VGS = 0 V	30			V
Zero Gate Voltage Drain Current	IDSS	VDS = 30 V, VGS = 0 V			10	μA
Gate-source Leakage Current	IGSS	VGS = ±16 V, VDS = 0 V			±10	μA
Gate-source Threshold Voltage	Vth	ID = 2.3 mA, VDS = 10 V	1.0		2.5	V
Drain-source On-State Resistance	RDS(on)1	ID = 11.5A, VGS = 10 V		3.7	5.0	mΩ
	RDS(on)2	ID = 11.5A, VGS = 4.5V		5.4	8.1	

Dynamic Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input Capacitance	Ciss	VDS = 10 V, VGS = 0 V f = 1 MHz		1800		pF
Output Capacitance	Coss			230		
Reverse Transfer Capacitance	Crss			150		
Turn-on Delay Time *1	td(on)	VDD = 15 V, VGS = 0 to 10 V ID = 11.5 A		11		ns
Rise Time *1	tr			6		
Turn-off Delay Time *1	td(off)	VDD = 15 V, VGS = 10 to 0 V ID = 11.5 A		62		ns
Fall Time *1	tf			9		
Total Gate Charge	Qg	VDD = 15 V, VGS = 0 to 4.5 V, ID = 23 A		14		nC
Gate-source Charge	Qgs			4.5		
Gate-drain Charge	Qgd			5		

Note *1 Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time

Body Diode Characteristic

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Diode Forward Voltage	VSD	IS = 11.5 A, VGS = 0 V		0.8	1.2	V

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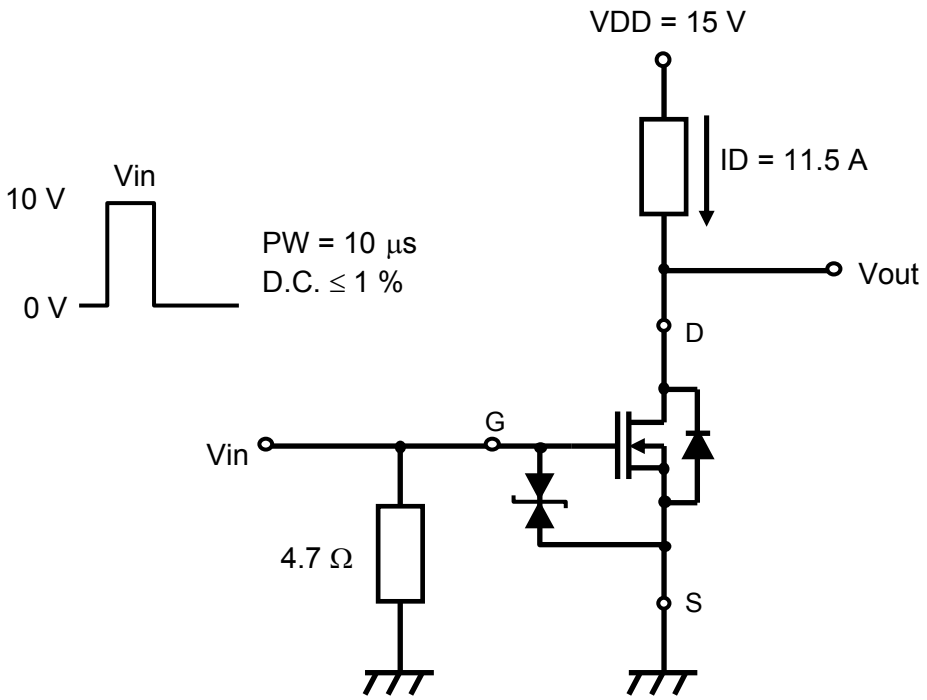
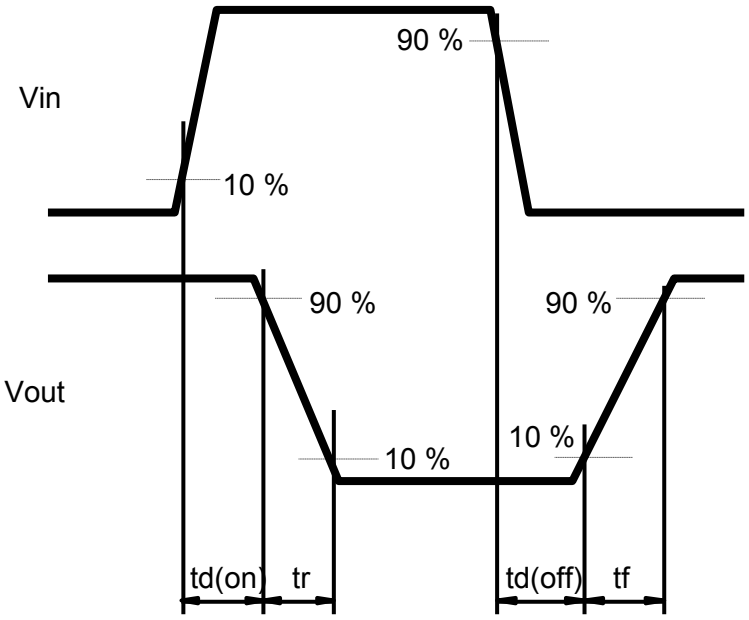
*1 Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time





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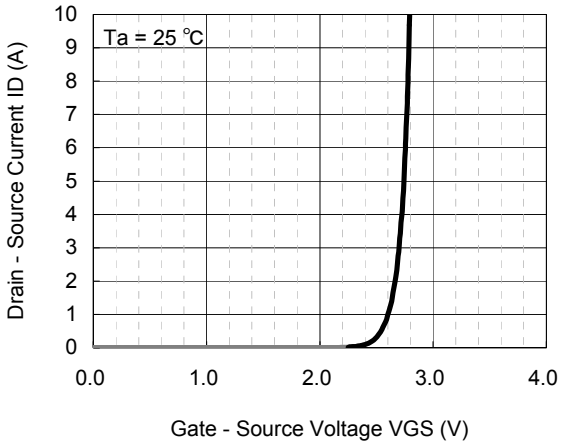
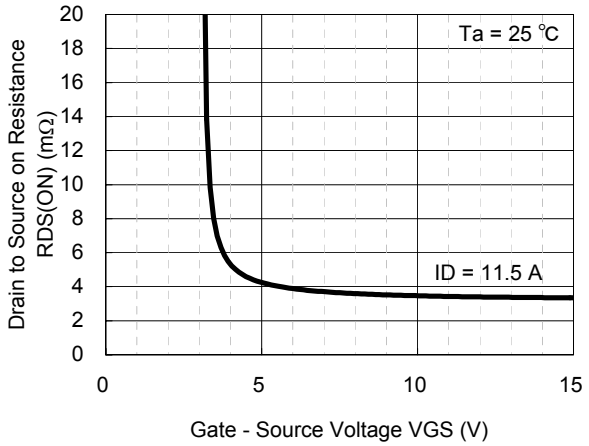
Technical Data (reference)

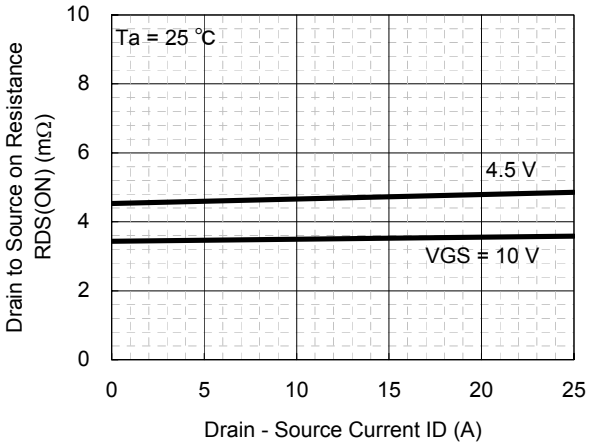
ID - VGS



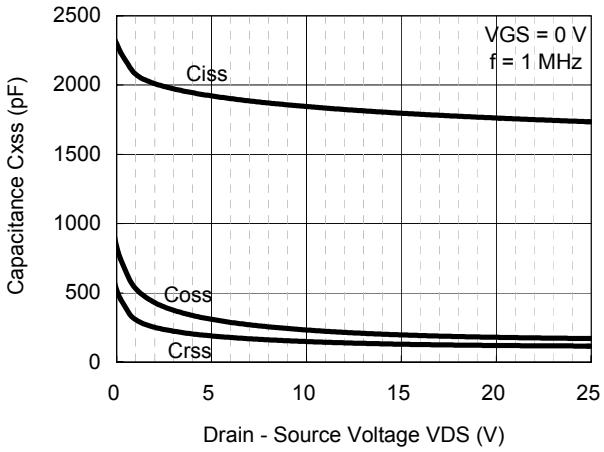
RDS(on) - VGS



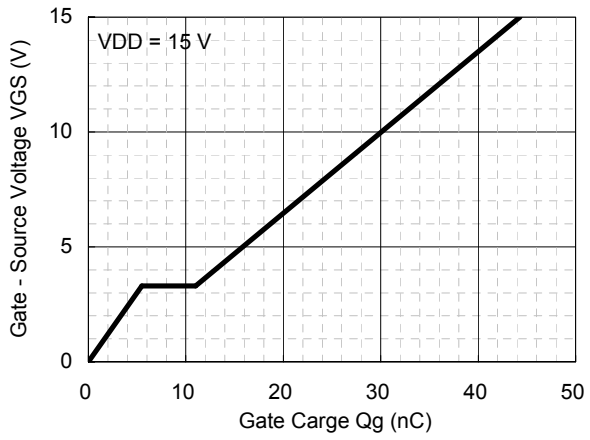
RDS(on) - ID



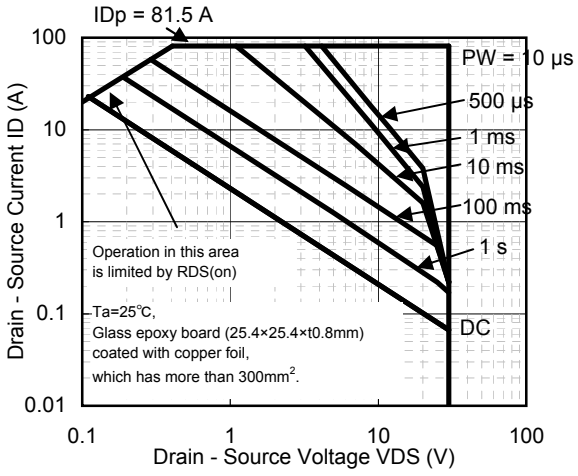
Capacitance - VDS



Dynamic Input/Output Characteristics



Safe Operating Area



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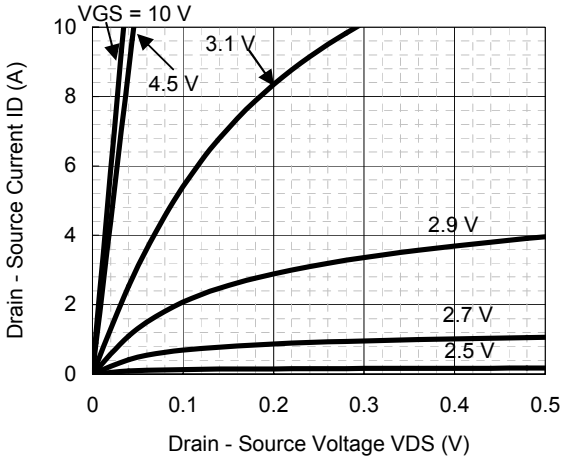
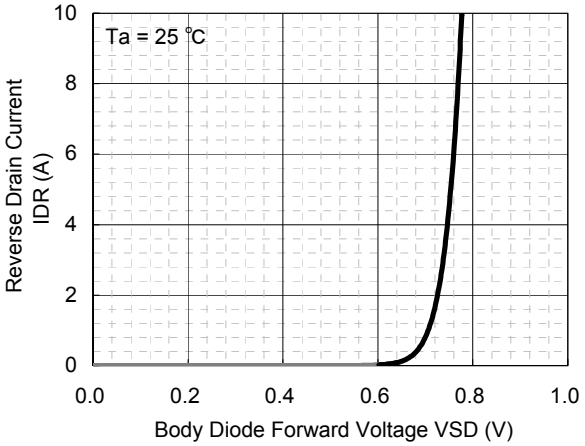
Technical Data (reference)

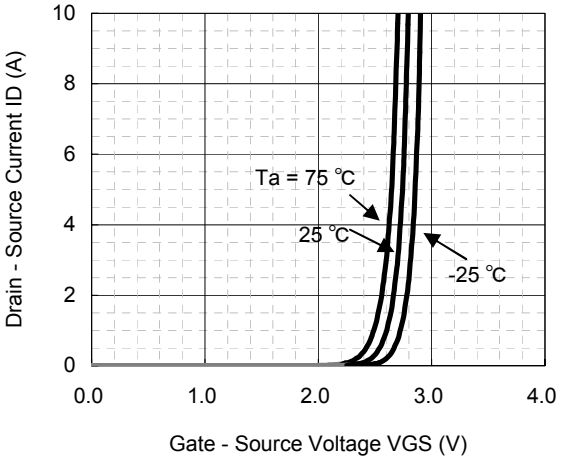
ID - VDS



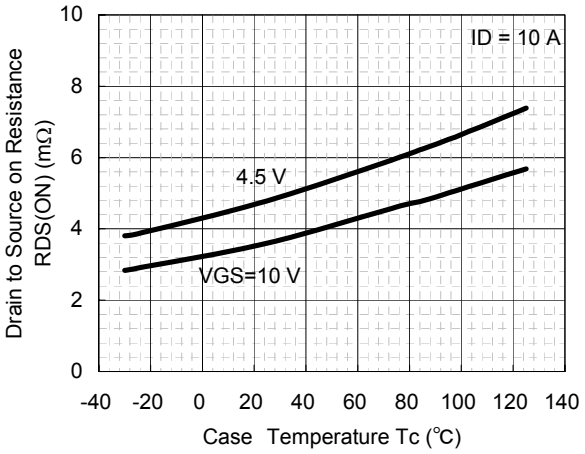
IDR - VSD



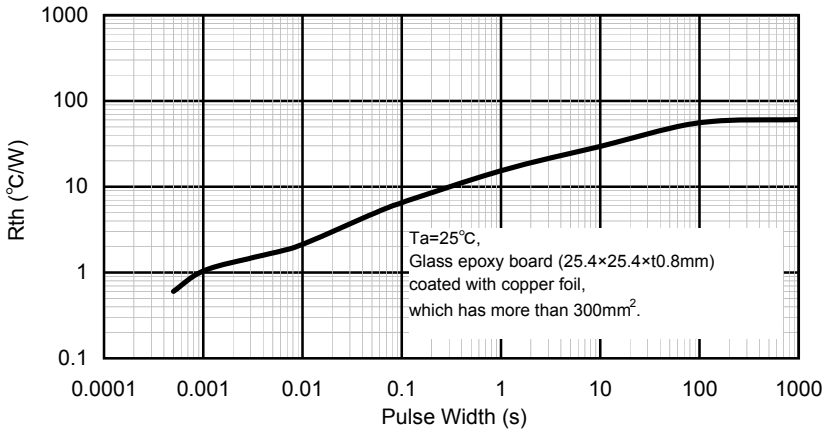
ID - VGS



RDS(on) - TC



Rth - tsw



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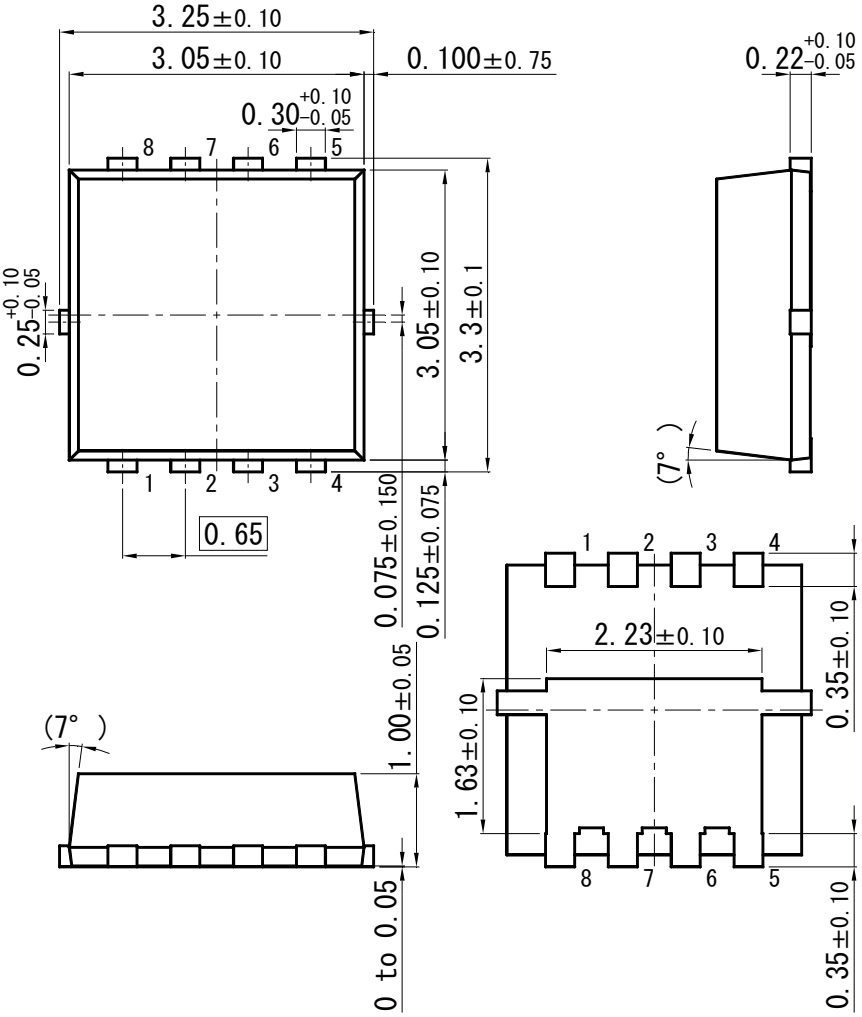
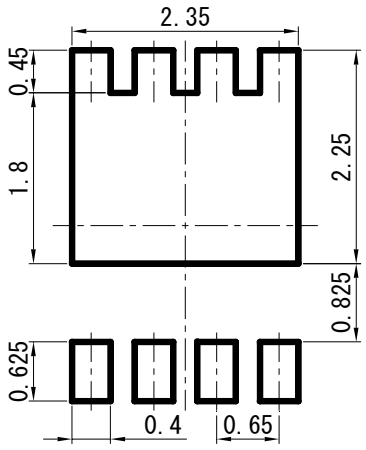
HSSO8-F1-B

Unit : mm



■ Land Pattern (Reference) (Unit: mm)



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