

2SK1880(L), 2SK1880(S)

Silicon N Channel MOS FET

REJ03G0983-0200
(Previous: ADE-208-1331)

Rev.2.00

Sep 07, 2005

Application

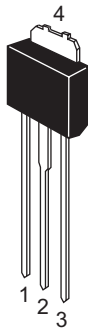
High speed power switching

Features

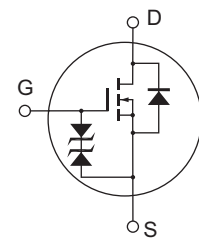
- Low on-resistance
- High speed switching
- No secondary breakdown
- Suitable for switching regulator

Outline

RENESAS Package code: PRSS0004ZD-A
(Package name: DPAK(L)-(1))



RENESAS Package code: PRSS0004ZD-C
(Package name: DPAK(S))



1. Gate
2. Drain
3. Source
4. Drain

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	600	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	1.5	A
Drain peak current	I _{D(pulse)} * ¹	3.0	A
Body to drain diode reverse drain current	I _{DR}	1.5	A
Channel dissipation	P _{ch} * ²	20	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1 %

2. Value at T_c = 25°C

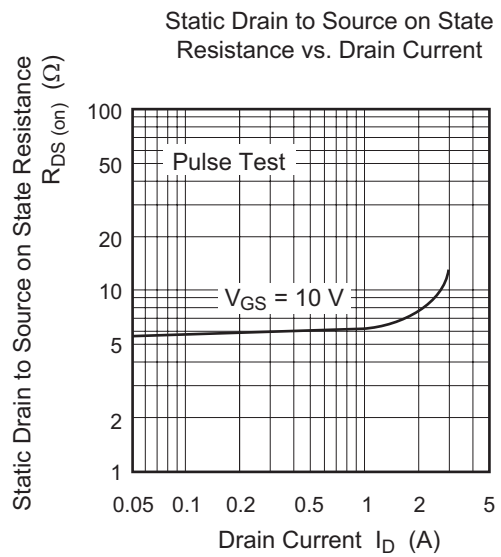
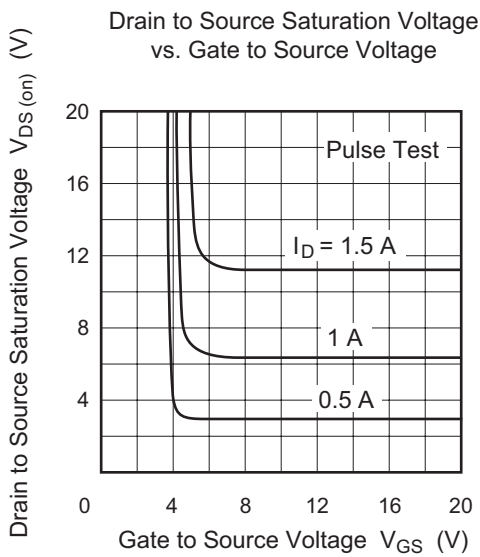
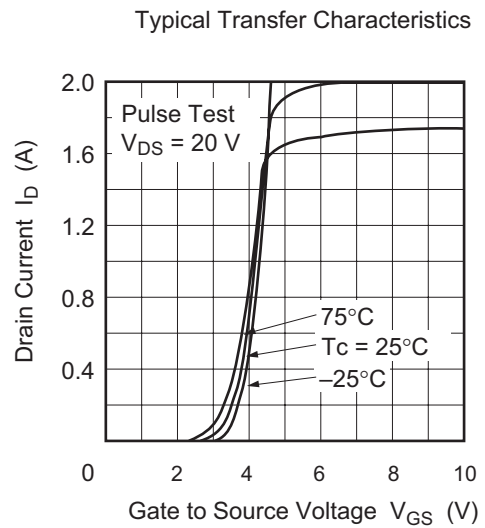
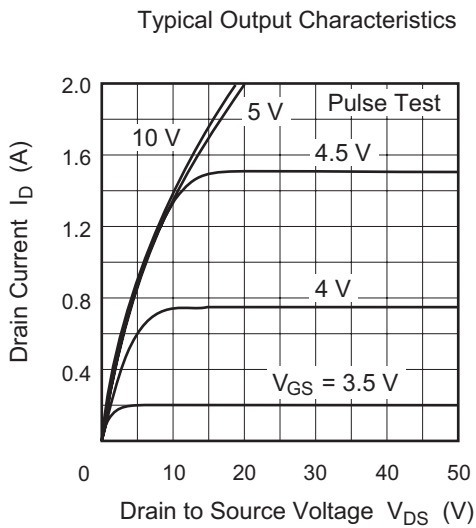
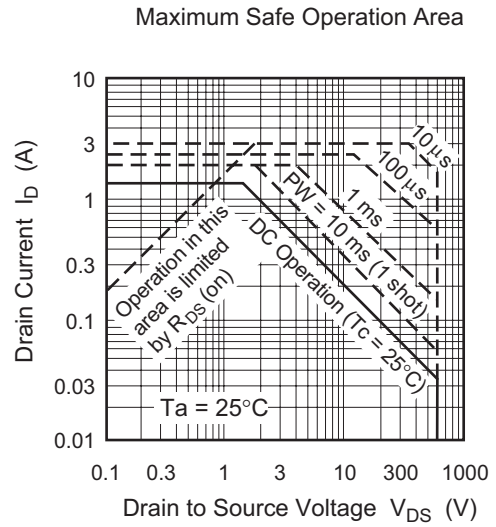
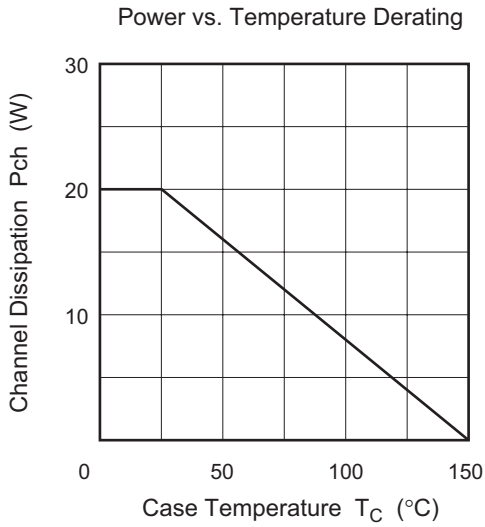
Electrical Characteristics

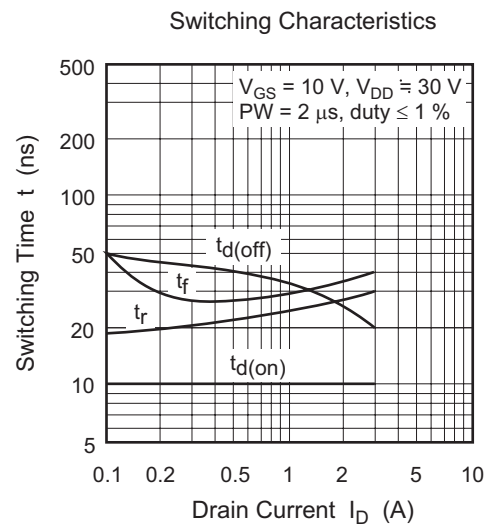
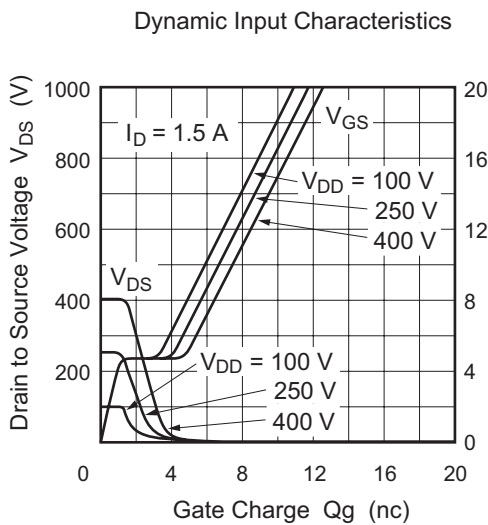
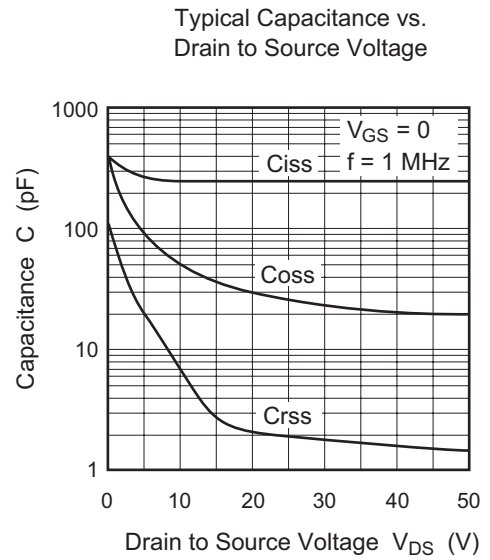
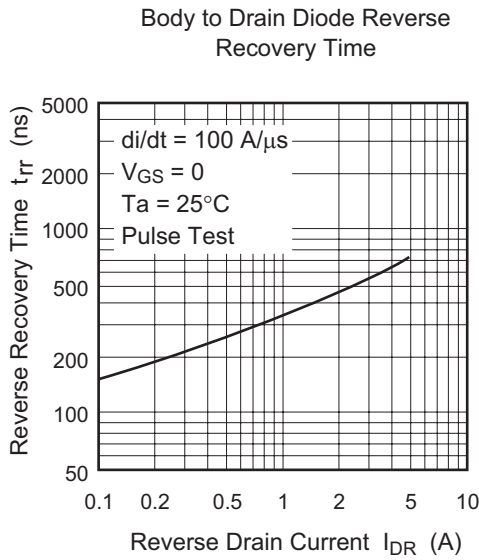
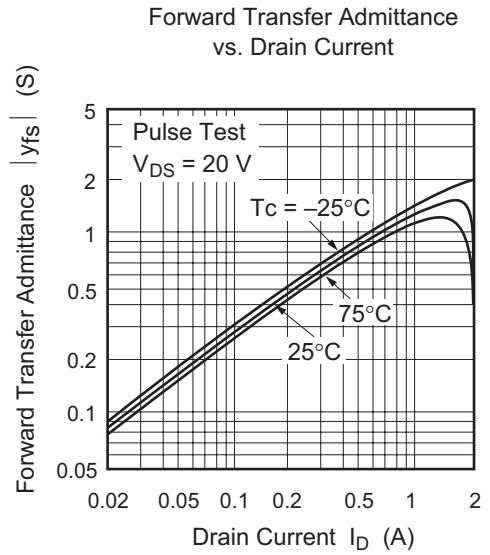
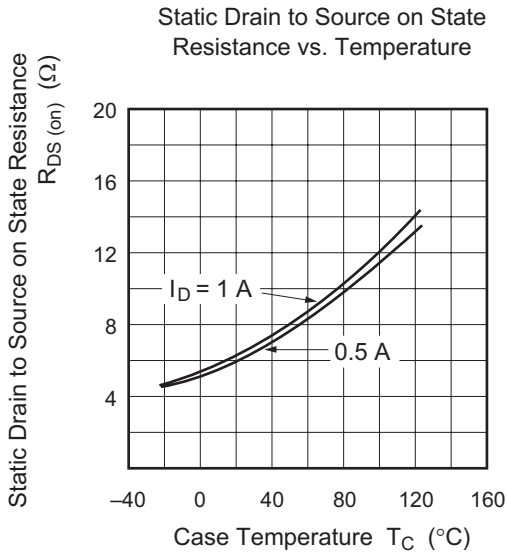
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	600	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±30	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±25 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	100	μA	V _{DS} = 500 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	3.0	V	I _D = 1 mA, V _{DS} = 10 V
Static drain to source on state resistance	R _{DS(on)}	—	6.5	8.0	Ω	I _D = 1 A, V _{GS} = 10 V* ³
Forward transfer admittance	y _{fs}	0.85	1.4	—	S	I _D = 1 A, V _{DS} = 20 V* ³
Input capacitance	C _{iss}	—	250	—	pF	V _{DS} = 10 V, V _{GS} = 0, f = 1 MHz
Output capacitance	C _{oss}	—	55	—	pF	
Reverse transfer capacitance	C _{rss}	—	8	—	pF	
Turn-on delay time	t _{d(on)}	—	10	—	ns	I _D = 1 A, V _{GS} = 10 V, R _L = 30 Ω
Rise time	t _r	—	25	—	ns	
Turn-off delay time	t _{d(off)}	—	35	—	ns	
Fall time	t _f	—	30	—	ns	
Body to drain diode forward voltage	V _{DF}	—	0.95	—	V	I _F = 1.5 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	350	—	μs	I _F = 1.5 A, V _{GS} = 0, di _F /dt = 100 A/μs

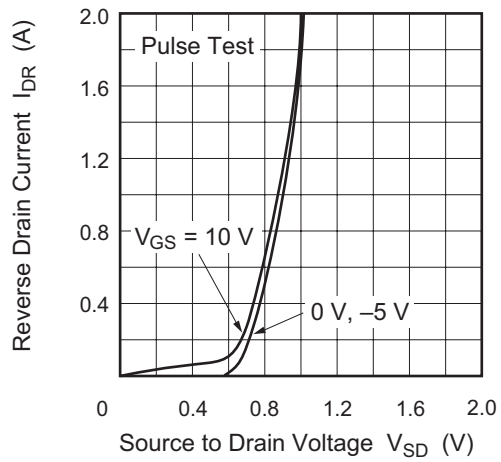
Note: 3. Pulse Test

Main Characteristics

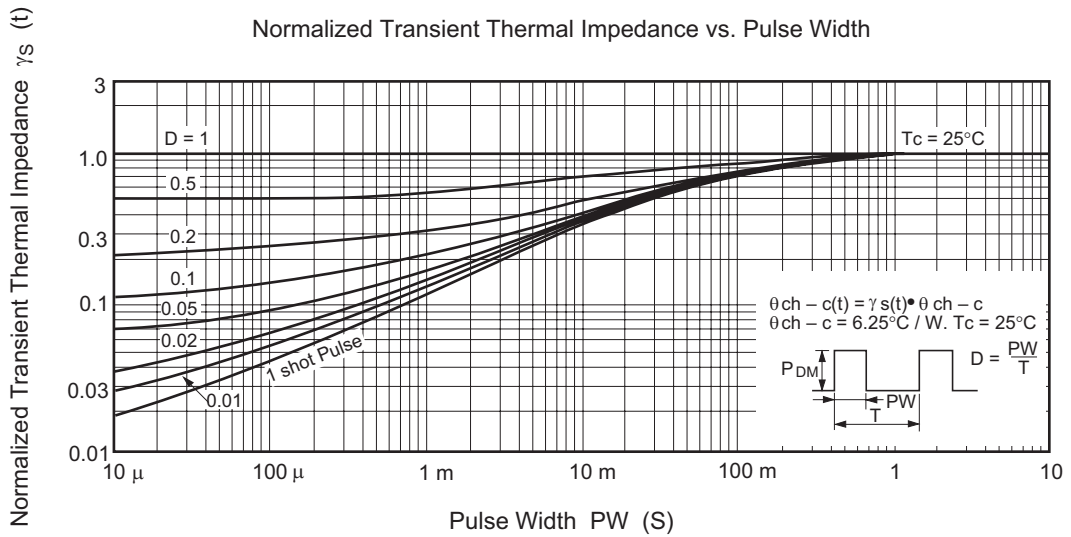




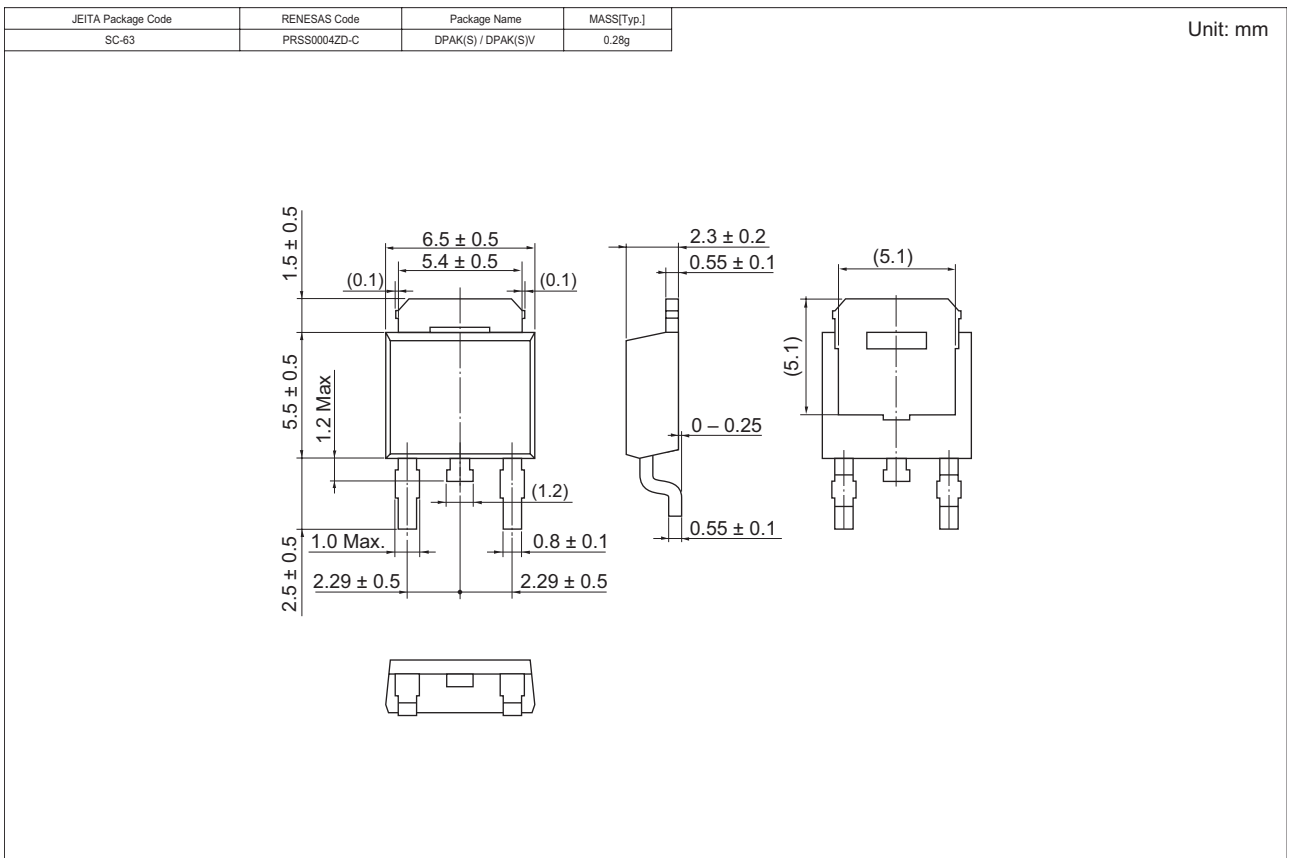
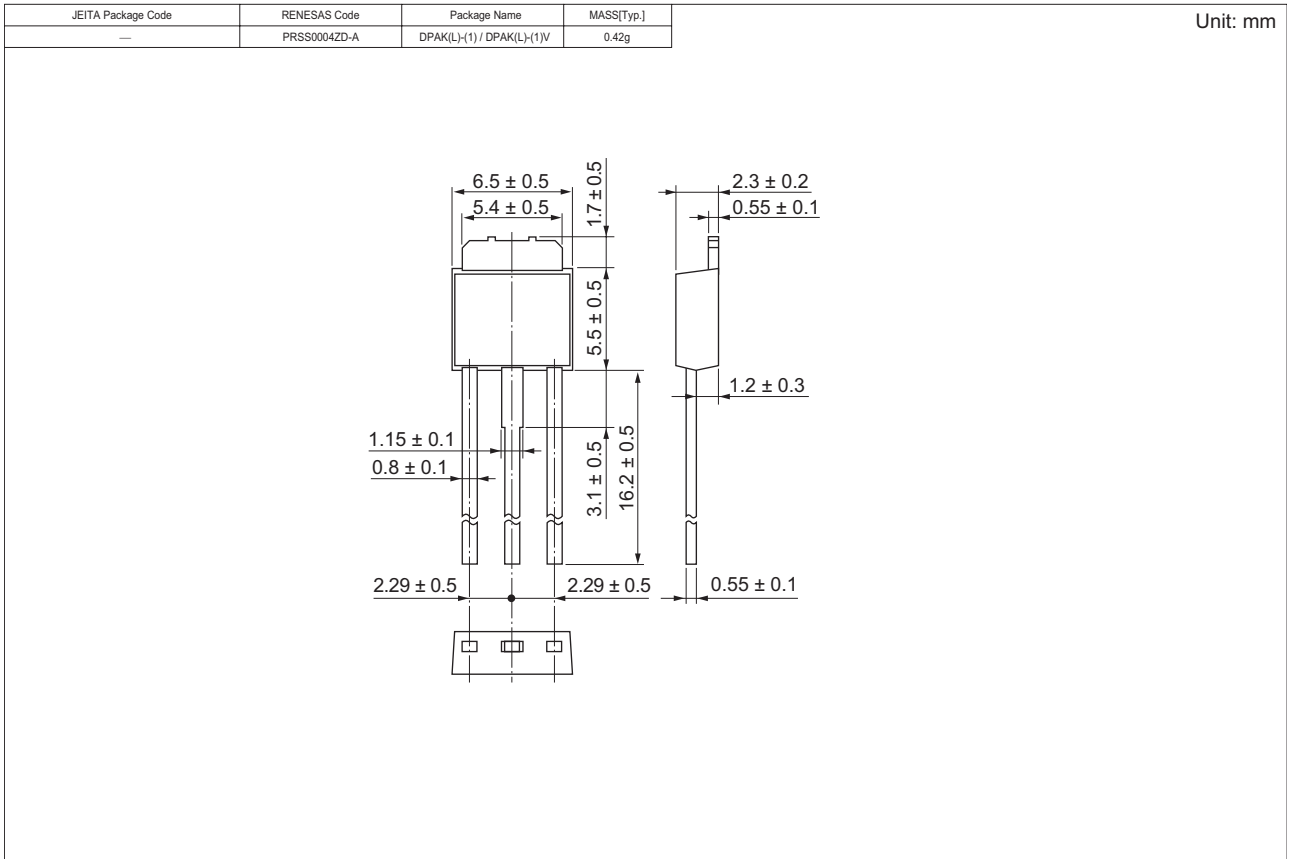
Reverse Drain Current vs. Source to Drain Voltage



Normalized Transient Thermal Impedance vs. Pulse Width



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK1880L-E	3200 pcs	Box (Sack)
2SK1880STL-E	3000 pcs	Taping

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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