

2SK1835

Silicon N Channel MOS FET

REJ03G0978-0400

Rev.4.00

Jun 04, 2008

Application

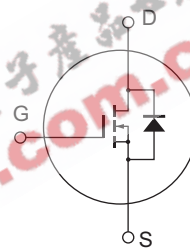
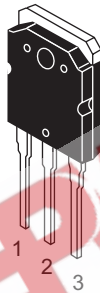
High speed power switching

Features

- High breakdown voltage ($V_{DSS} = 1500\text{ V}$)
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for switching regulator

Outline

RENESAS Package code: PRSS0004ZE-A
(Package name: TO-3P)



1. Gate
2. Drain
(Flange)
3. Source

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	1500	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	4	A
Drain peak current	I _{D(pulse)} ^{Note1}	10	A
Body to drain diode reverse drain current	I _{DR}	4	A
Channel dissipation	P _{ch} ^{Note2}	125	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 Tc = 25°C

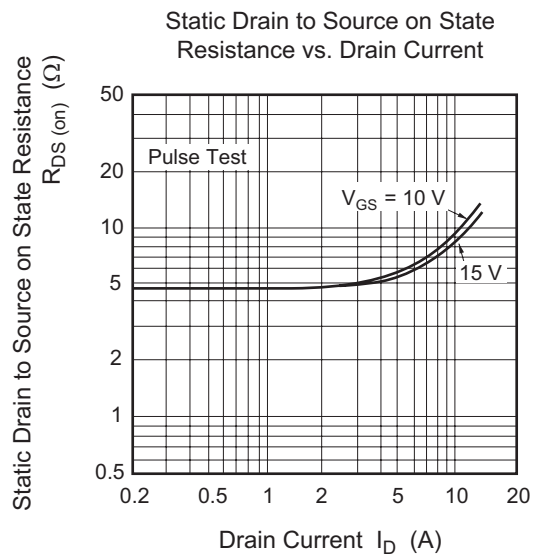
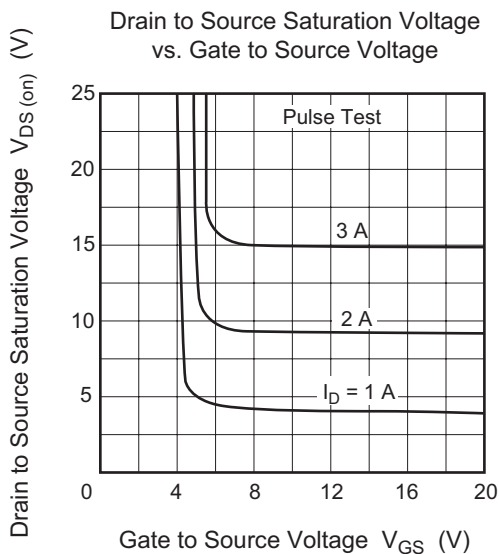
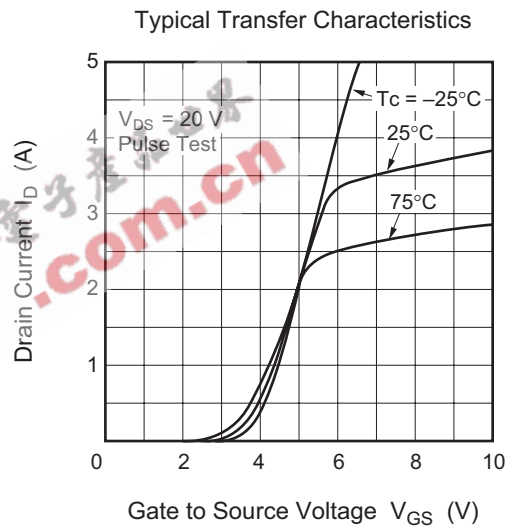
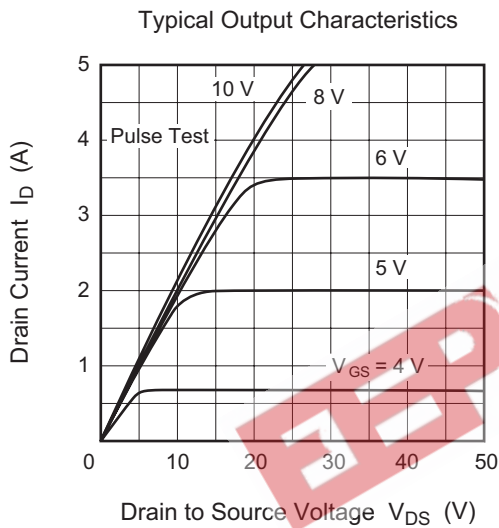
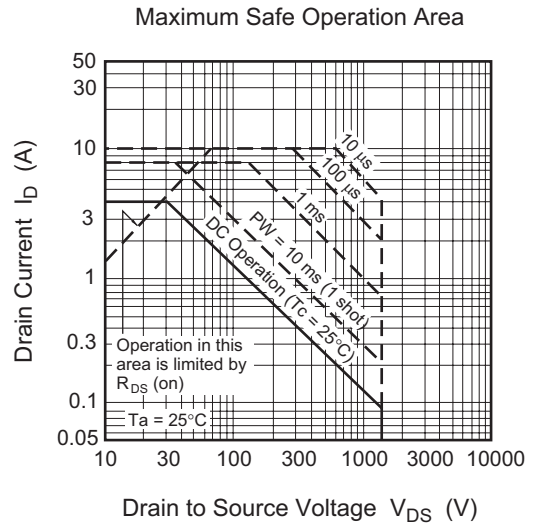
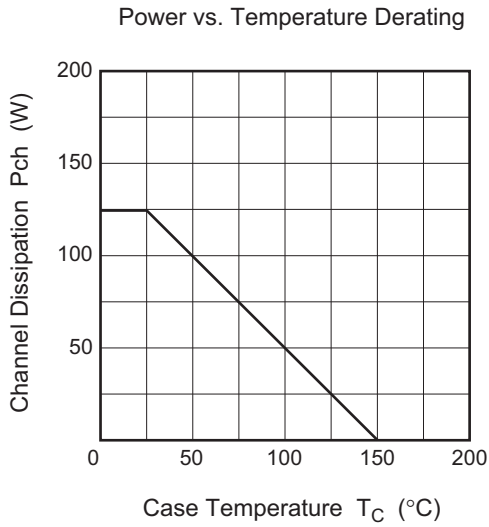
Electrical Characteristics

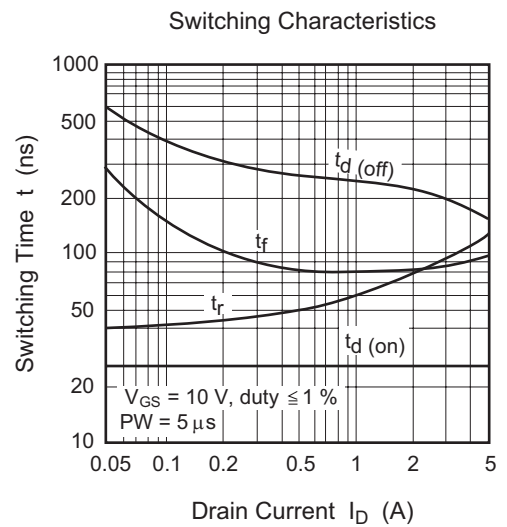
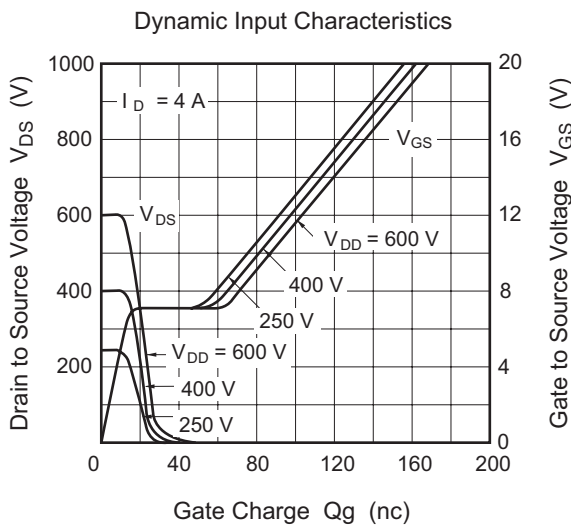
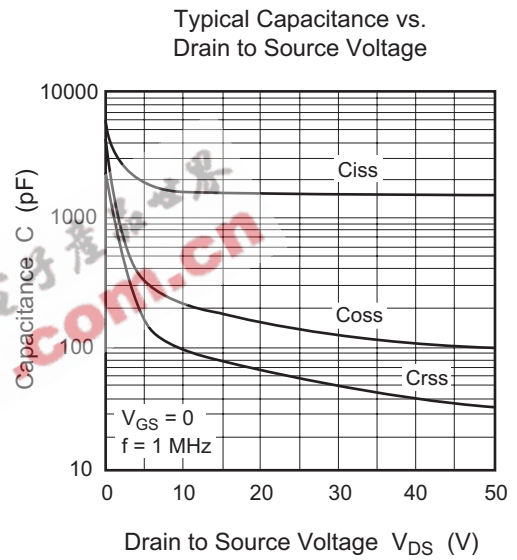
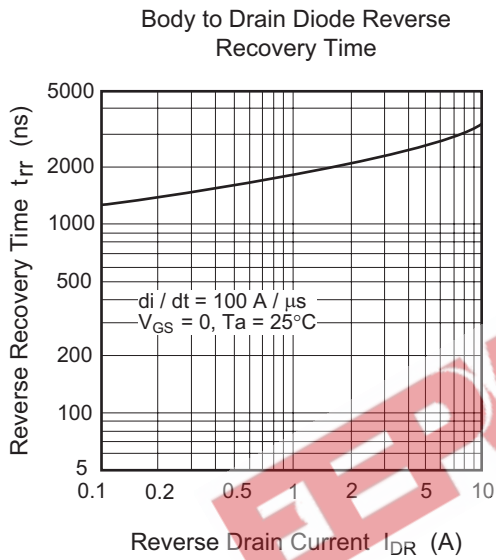
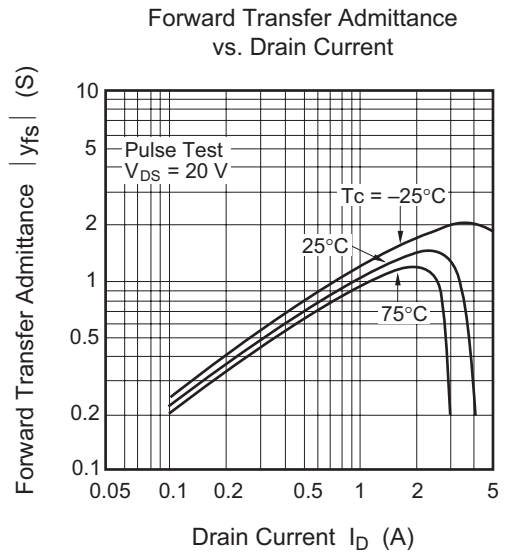
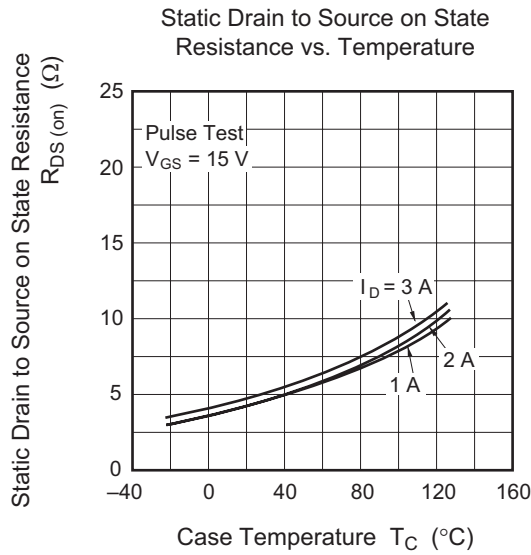
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR)DSS}	1500	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source leak current	I _{GSS}	—	—	±1	μA	V _{GS} = ±20 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	500	μA	V _{DS} = 1200 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	4.0	V	I _D = 1 mA, V _{DS} = 10 V
Static drain to source on state resistance	R _{DS(on)}	—	4.6	7.0	Ω	I _D = 2 A, V _{GS} = 15 V ^{Note 3}
Forward transfer admittance	y _{fs}	0.9	1.4	—	S	I _D = 2 A, V _{DS} = 20 V ^{Note 3}
Input capacitance	C _{iss}	—	1700	—	pF	V _{DS} = 10 V, V _{GS} = 0, f = 1 MHz
Output capacitance	C _{oss}	—	230	—	pF	
Reverse transfer capacitance	C _{rss}	—	100	—	pF	
Turn-on delay time	t _{d(on)}	—	25	—	ns	I _D = 2A, V _{GS} = 10 V, R _L = 15 Ω
Rise time	t _r	—	80	—	ns	
Turn-off delay time	t _{d(off)}	—	230	—	ns	
Fall time	t _f	—	80	—	ns	
Body to drain diode forward voltage	V _{DF}	—	0.85	—	V	I _F = 4 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	2500	—	ns	I _F = 4 A, V _{GS} = 0, di _F /dt = 100 A/μs

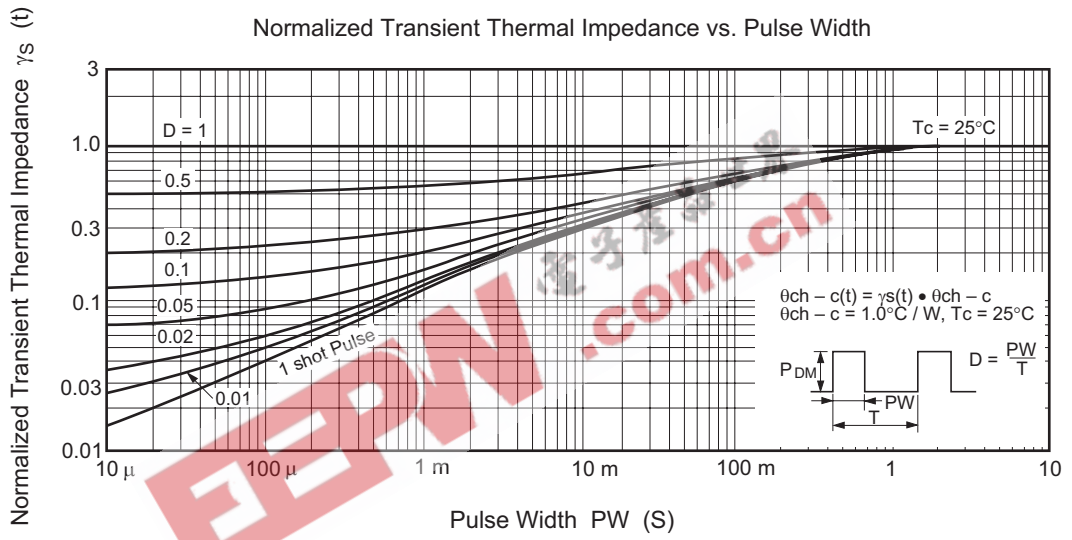
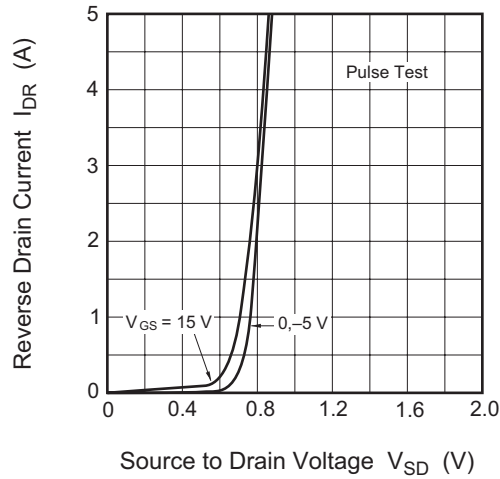
Note: 3. Pulse Test

Main Characteristics

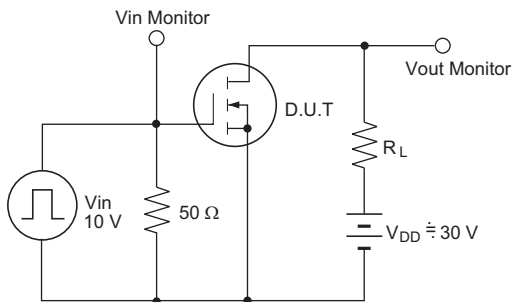




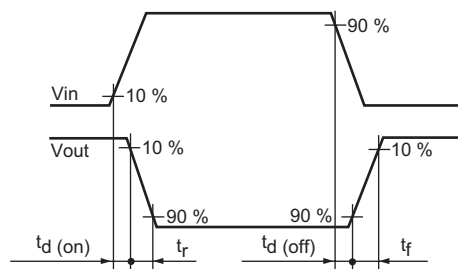
Reverse Drain Current vs. Source to Drain Voltage



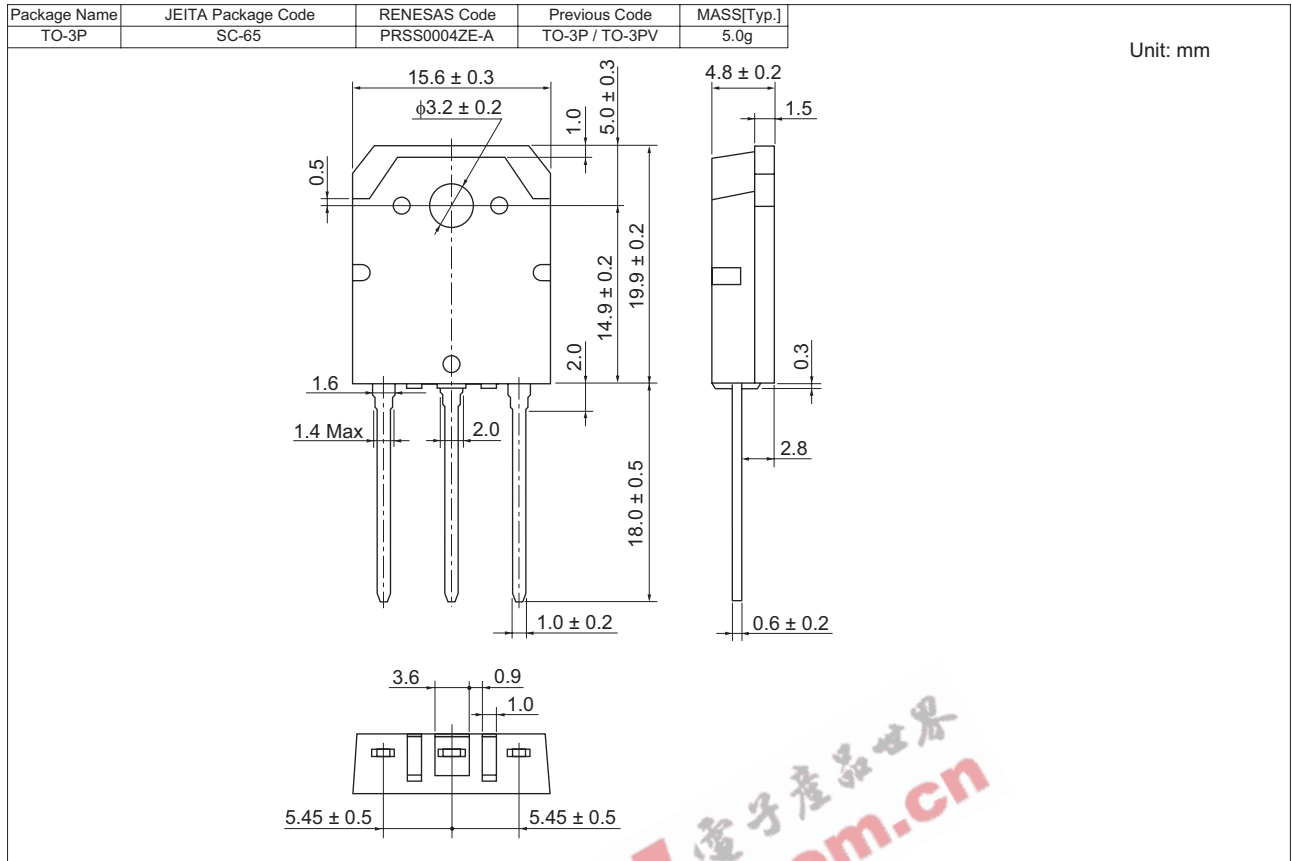
Switching Time Test Circuit



Waveforms



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK1835-E	360 pcs	Box (Tube)

Notes:

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