

2SK2737

Silicon N Channel MOS FET
High Speed Power Switching

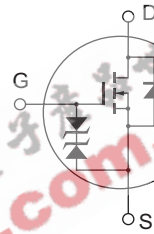
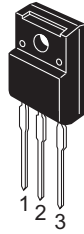
REJ03G1031-0400
(Previous: ADE-208-533B)
Rev.4.00
Sep 07, 2005

Features

- Low on-resistance
 $R_{DS(on)} = 10 \text{ m}\Omega$ typ.
- 4 V gate drive devices.
- High speed switching

Outline

RENESAS Package code: PRSS0003AE-A
(Package name: TO-220C•FM)



1. Gate
2. Drain
3. Source

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	30	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	45	A
Drain peak current	I _{D(pulse)} ^{Note1}	180	A
Body-drain diode reverse drain current	I _{DR}	45	A
Channel dissipation	P _{ch} ^{Note2}	30	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Notes: 1. PW ≤ 10μs, duty cycle ≤ 1 %

2. Value at Tc = 25°C

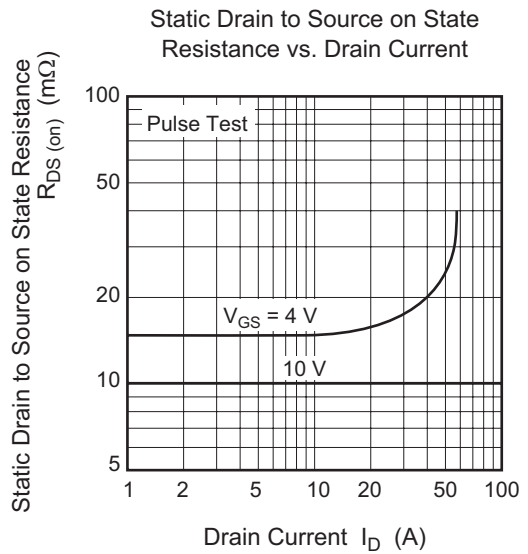
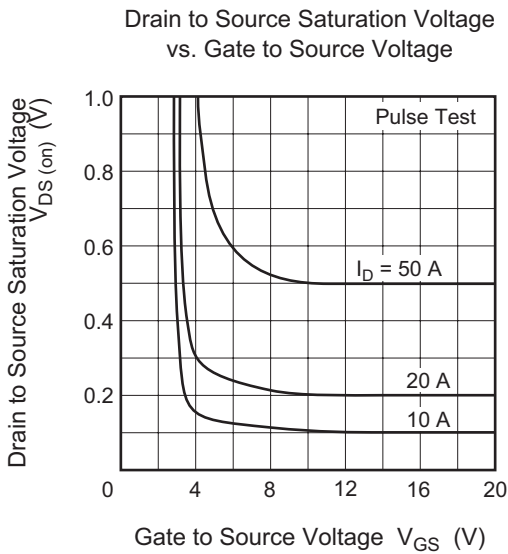
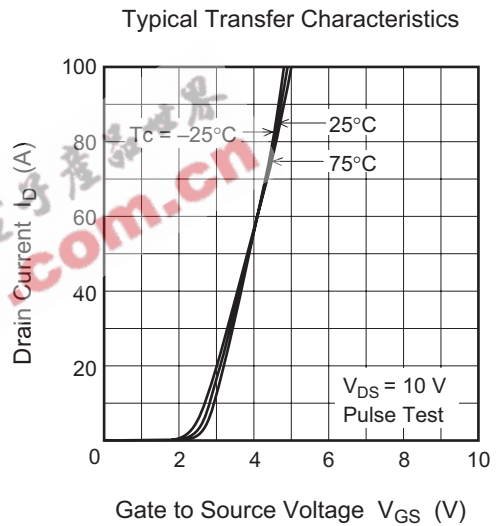
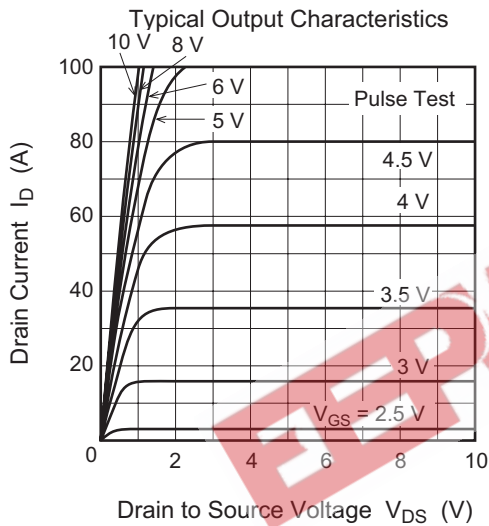
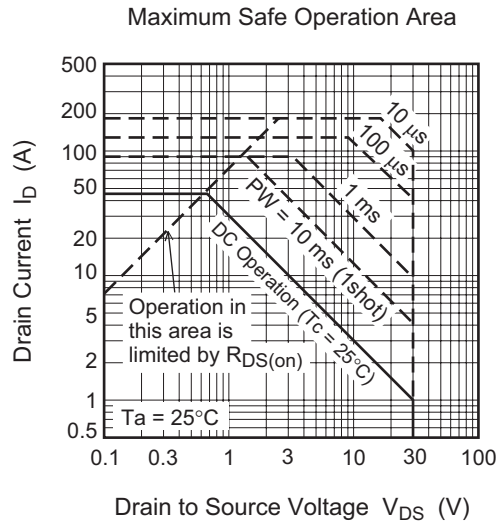
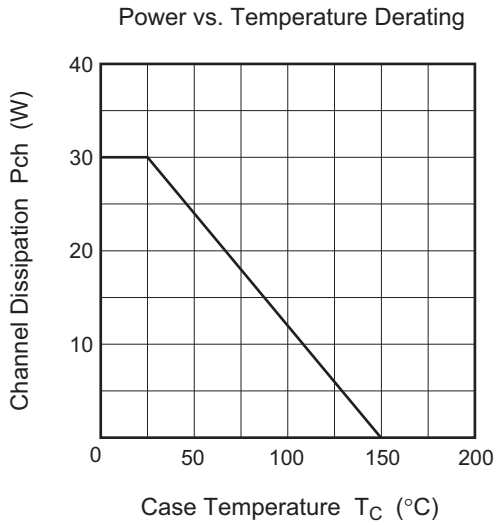
Electrical Characteristics

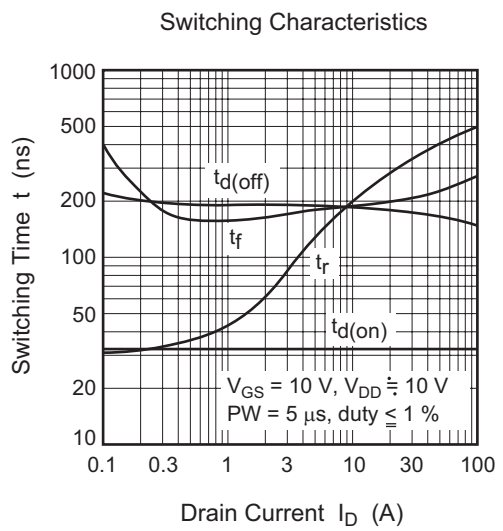
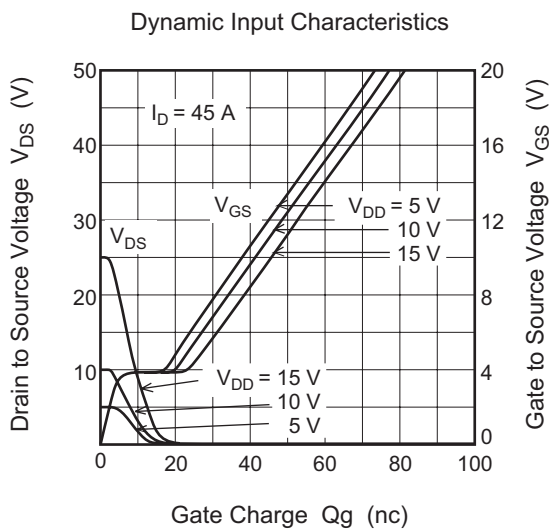
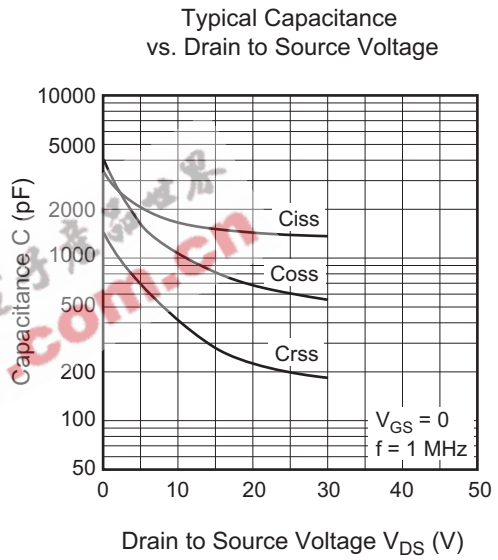
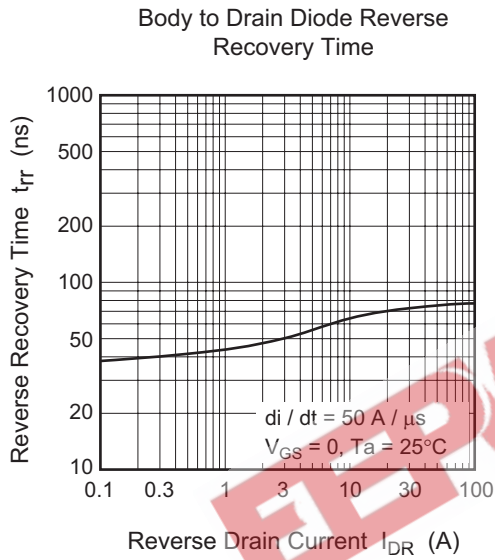
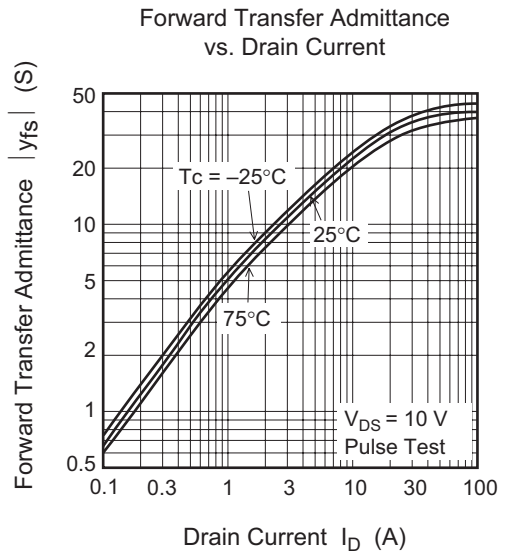
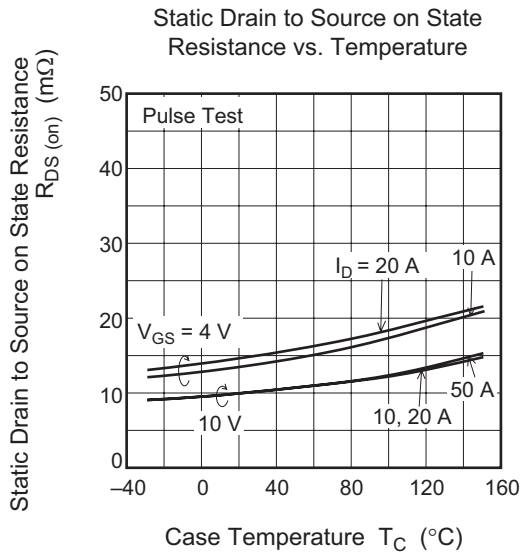
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR)DSS}	30	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±20	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±16 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	10	μA	V _{DS} = 30 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	1.0	—	2.0	V	I _D = 1 mA, V _{DS} = 10 V ^{Note3}
Static drain to source on state resistance	R _{DS(on)}	—	10	14	mΩ	I _D = 20 A, V _{GS} = 10 V ^{Note3}
	R _{DS(on)}	—	15	25	mΩ	I _D = 20 A, V _{GS} = 4 V ^{Note3}
Forward transfer admittance	y _{fs}	20	30	—	S	I _D = 20 A, V _{DS} = 10 V ^{Note3}
Input capacitance	C _{iss}	—	1570	—	pF	V _{DS} = 10 V, V _{GS} = 0, f = 1MHz
Output capacitance	C _{oss}	—	1100	—	pF	
Reverse transfer capacitance	C _{rss}	—	410	—	pF	
Turn-on delay time	t _{d(on)}	—	32	—	ns	V _{GS} = 10 V, I _D = 20 A, R _L = 0.5 Ω
Rise time	t _r	—	300	—	ns	
Turn-off delay time	t _{d(off)}	—	180	—	ns	
Fall time	t _f	—	200	—	ns	
Body-drain diode forward voltage	V _{DF}	—	1.0	—	V	I _F = 45 A, V _{GS} = 0
Body-drain diode reverse recovery time	t _{rr}	—	75	—	ns	I _F = 45 A, V _{GS} = 0 di _F / dt = 50A/ μs

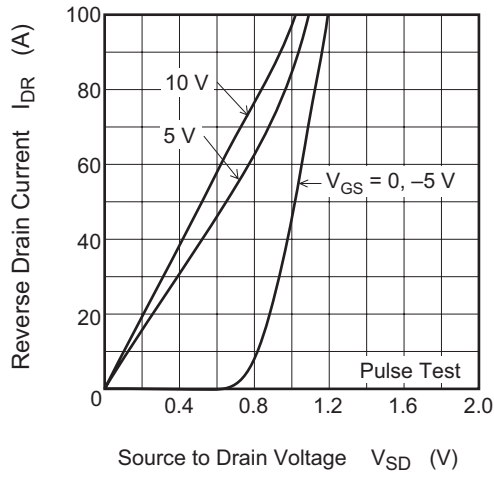
Note: 3. Pulse test

Main Characteristics

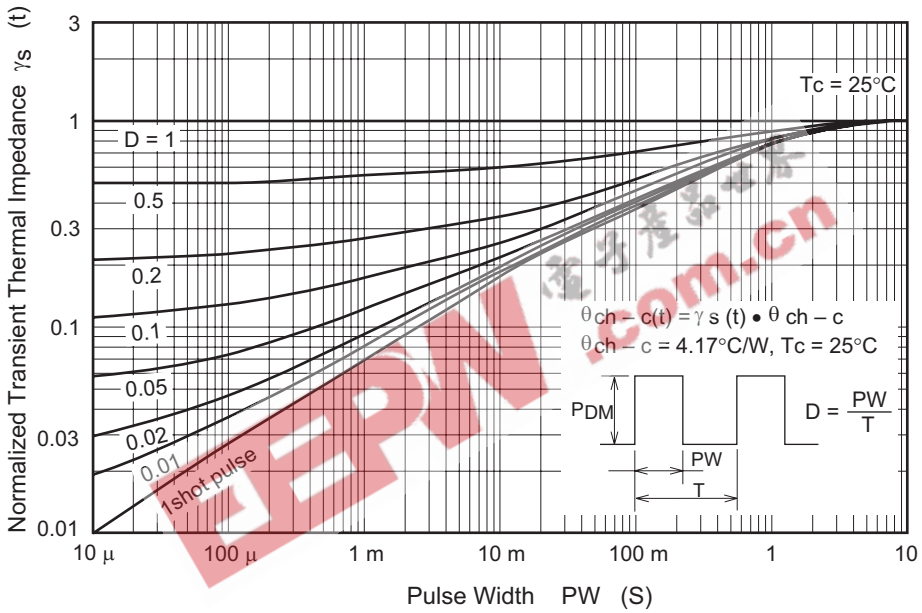




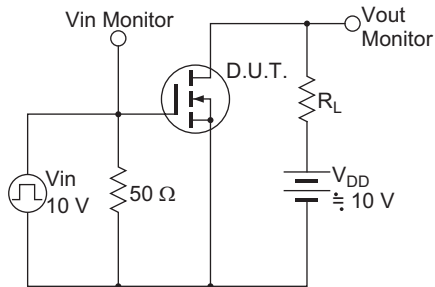
Reverse Drain Current vs. Source to Drain Voltage



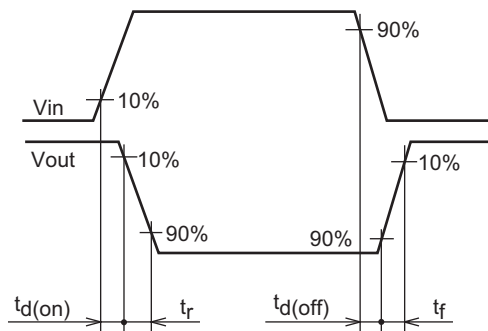
Normalized Transient Thermal Impedance vs. Pulse Width



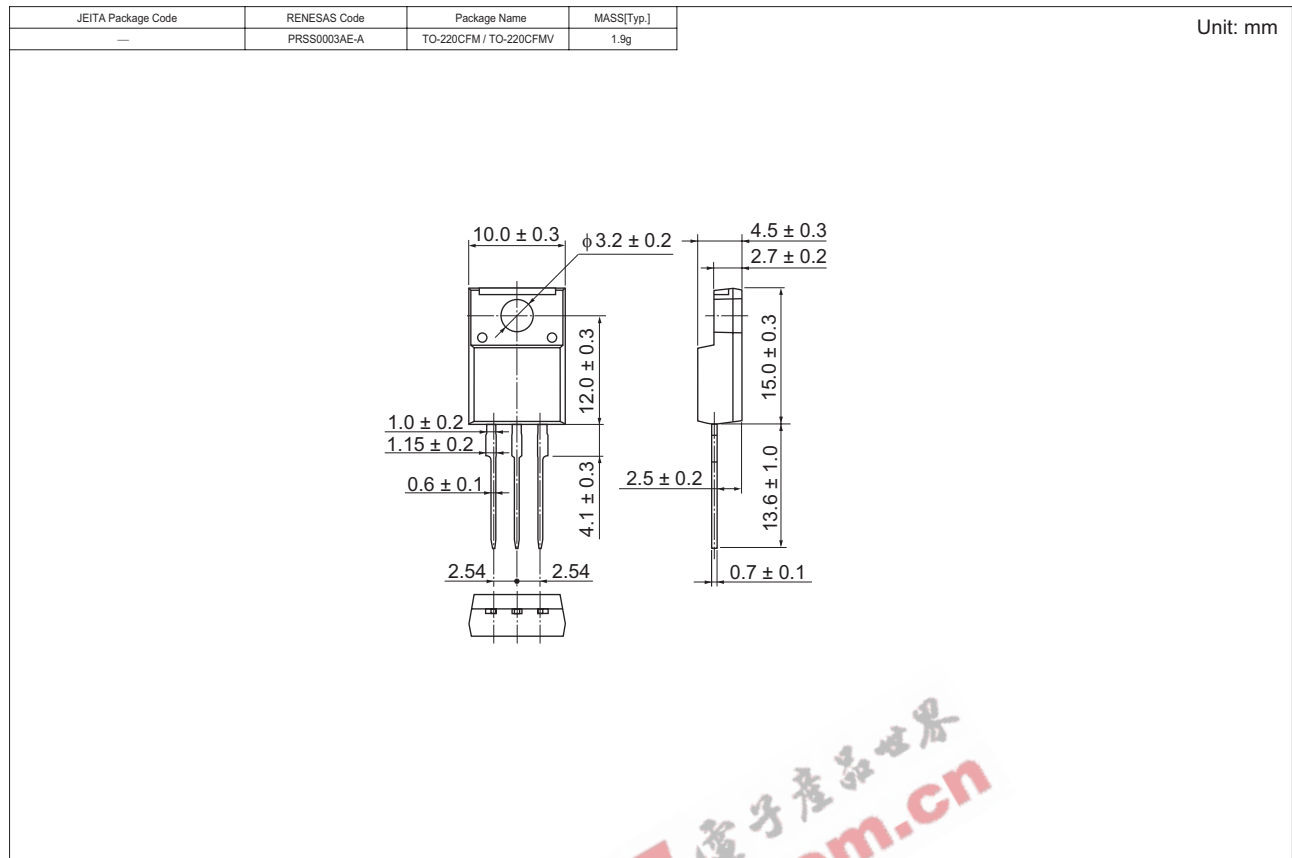
Switching Time Test Circuit



Waveform



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK2737-E	50 pcs	Plastic magazine

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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