

2SK1807 Silicon N Channel MOS FET

REJ03G0974-0200 (Previous: ADE-208-1321) Rev.2.00 Sep 07, 2005

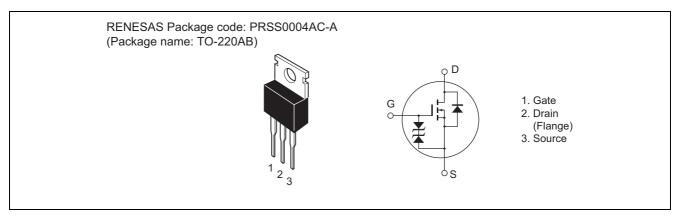
Application

High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for switching regulator, DC-DC converter

Outline





Absolute Maximum Ratings

			(1a - 23C)
Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	900	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	ID	4	A
Drain peak current	I _{D(pulse)} *1	10	A
Body to drain diode reverse drain current	I _{DR}	4	A
Channel dissipation	Pch ^{*2}	60	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Notes: 1. PW \leq 10 μ s, duty cycle \leq 1 %

2. Value at $Tc = 25^{\circ}C$

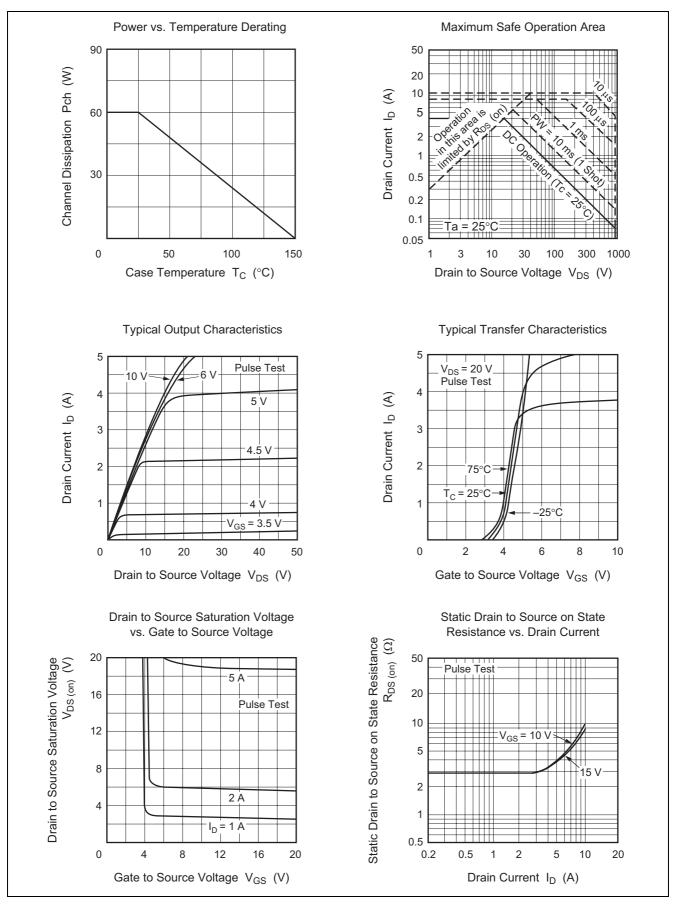
Electrical Characteristics

						$(Ta = 25^{\circ}C)$
ltem	Symbol	Min	Тур	Мах	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR)DSS}	900	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	V _{(BR)GSS}	±30	_		V	$I_G = \pm 100 \ \mu A, \ V_{DS} = 0$
Gate to source leak current	I _{GSS}	_	—	±10	μA	$V_{GS} = \pm 25 V, V_{DS} = 0$
Zero gate voltage drain current	I _{DSS}	_	—	250	μΑ	$V_{DS} = 720 V, V_{GS} = 0$
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	3.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state	R _{DS(on)}		3.0	4.0	Ω	$I_D = 2 \text{ A}, V_{GS} = 10 \text{ V}^{*3}$
resistance						
Forward transfer admittance	y _{fs}	1.7	2.7	—	S	$I_D = 2 A, V_{DS} = 20 V^{*3}$
Input capacitance	Ciss	_	740	—	pF	$V_{DS} = 10 V, V_{GS} = 0,$
Output capacitance	Coss	—	305	—	pF	f = 1 MHz
Reverse transfer capacitance	Crss	_	150	—	pF	
Turn-on delay time	t _{d(on)}	_	15	—	ns	$I_D = 2 \text{ A}, V_{GS} = 10 \text{ V},$
Rise time	tr	_	60	_	ns	R _L = 15 Ω
Turn-off delay time	t _{d(off)}		100		ns	
Fall time	t _f		80	_	ns	
Body to drain diode forward voltage	V _{DF}		0.9		V	$I_F = 4 \text{ A}, V_{GS} = 0$
Body to drain diode reverse	t _{rr}		800		ns	$I_F = 4 A, V_{GS} = 0,$
recovery time						$di_F/dt = 100 \text{ A}/\mu \text{s}$

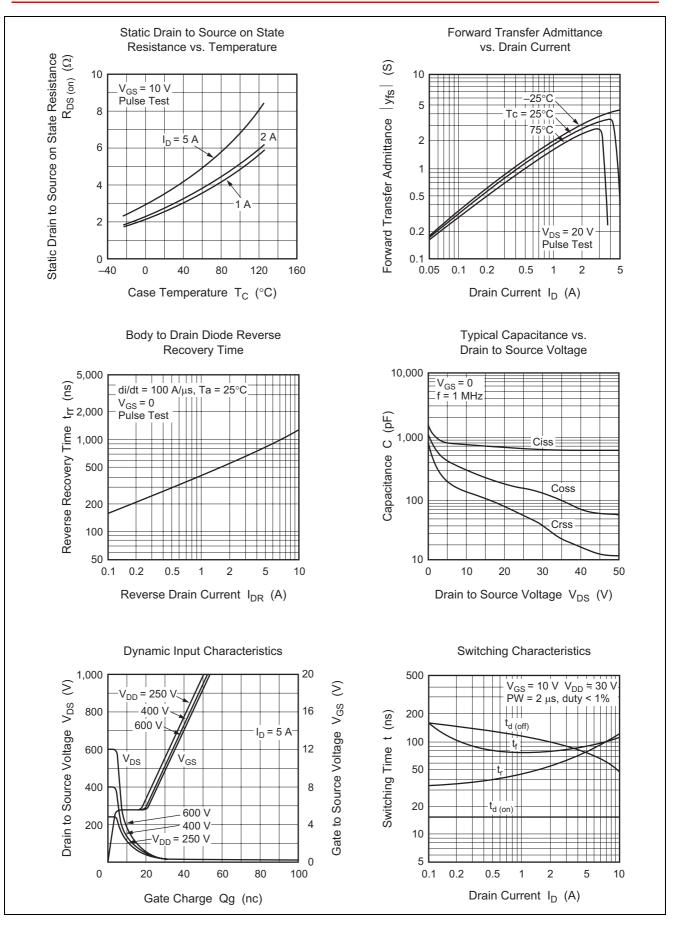
Note: 3. Pulse Test



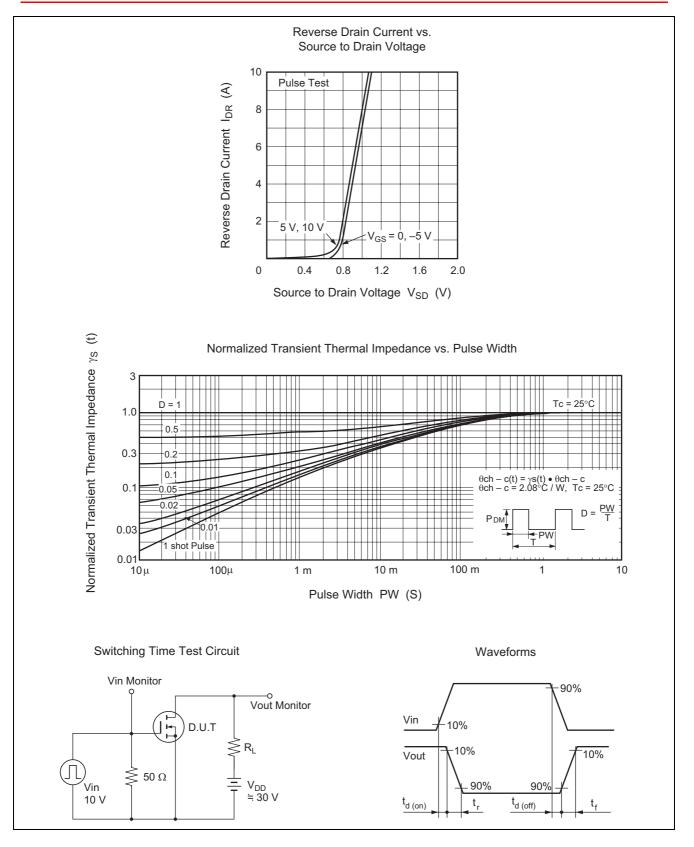
Main Characteristics





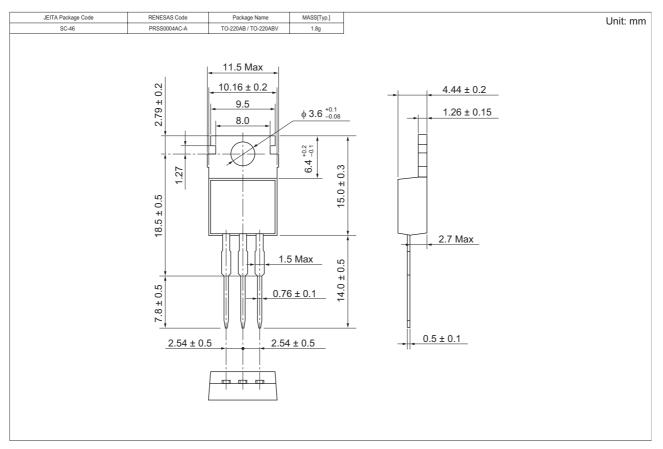








Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK1807-E	500 pcs	Box (Sack)

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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