

2SK1636(L), 2SK1636(S)

Silicon N Channel MOS FET

REJ03G0961-0200 (Previous: ADE-208-1304) Rev.2.00 Sep 07, 2005

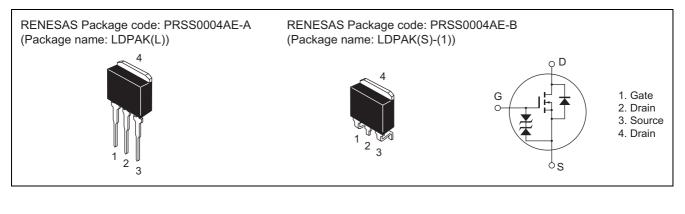
Application

High speed power switching

Features

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

Outline





Absolute Maximum Ratings

			$(Ta = 25^{\circ}C)$
Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	250	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	ID	15	А
Drain peak current	I _{D(pulse)} * ¹	60	А
Body to drain diode reverse drain current	I _{DR}	15	А
Channel dissipation	Pch* ²	75	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 $T_C = 25^{\circ}C$

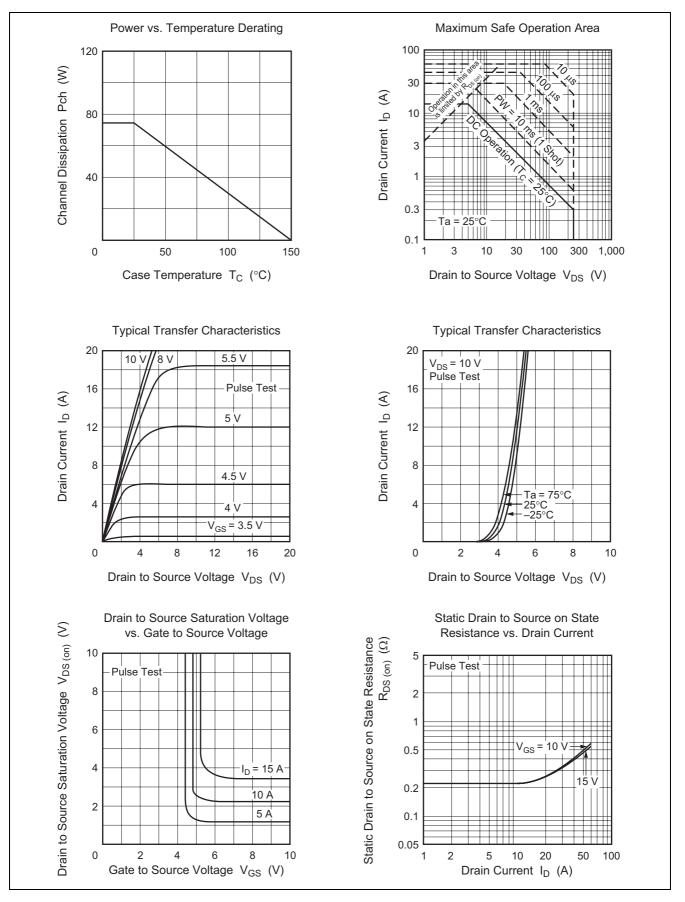
Electrical Characteristics

						$(Ta = 25^{\circ}C)$
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	250	_	_	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	$V_{DS} = 200 V, V_{GS} = 0$
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)}	_	0.22	0.27	Ω	$I_D = 8 \text{ A}, V_{GS} = 10 \text{ V}^{*3}$
resistance						
Forward transfer admittance	y _{fs}	6.0	10.0	—	S	$I_D = 8 \text{ A}, V_{DS} = 10 \text{ V}^{*3}$
Input capacitance	Ciss		1250	—	pF	$V_{DS} = 10 V, V_{GS} = 0,$
Output capacitance	Coss		510	—	pF	f = 1 MHz
Reverse transfer capacitance	Crss	_	85	—	pF	
Turn-on delay time	t _{d(on)}	_	24	—	ns	$I_D = 8 \text{ A}, V_{GS} = 10 \text{ V},$
Rise time	tr	_	85	—	ns	R _L = 3.75 Ω
Turn-off delay time	t _{d(off)}		110		ns	
Fall time	t _f		60		ns	
Body to drain diode forward voltage	V_{DF}		1.0		V	$I_F = 15 \text{ A}, V_{GS} = 0$
Body to drain diode reverse recovery time	t _{rr}	_	400	—	ns	I _F = 15 A, V _{GS} = 0, di _F /dt = 100 A/μs

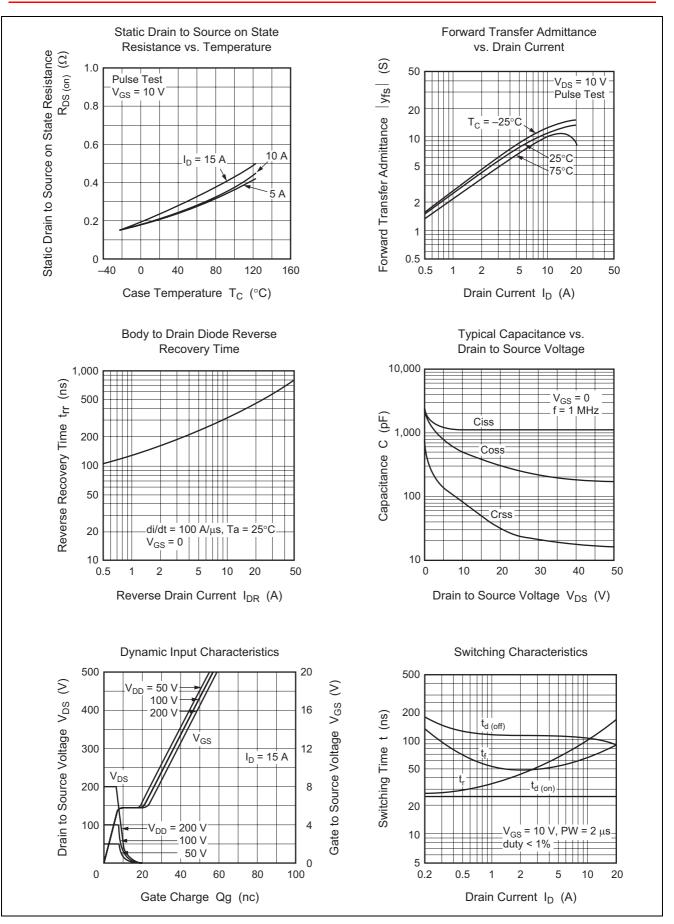
Note: 3. Pulse test

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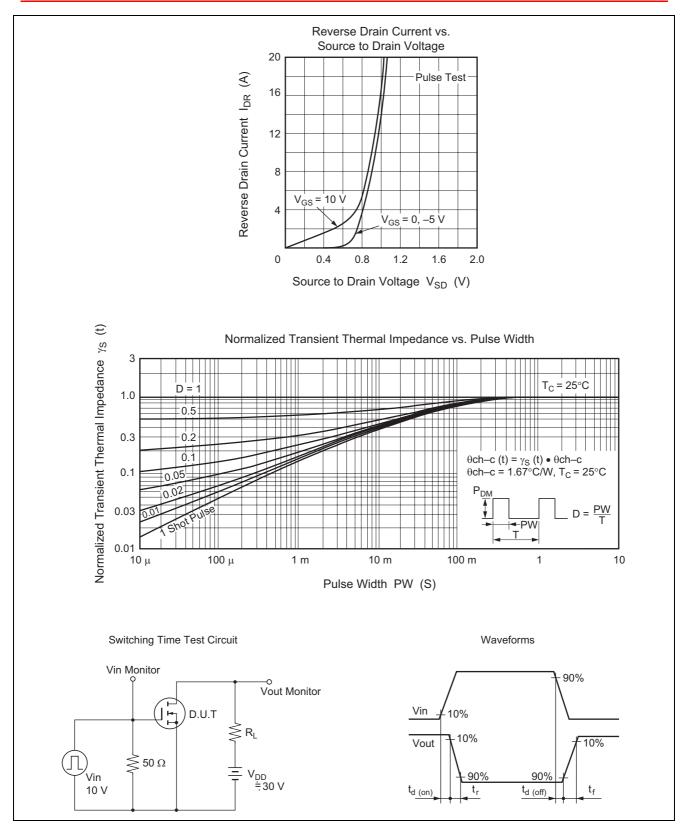
Main Characteristics



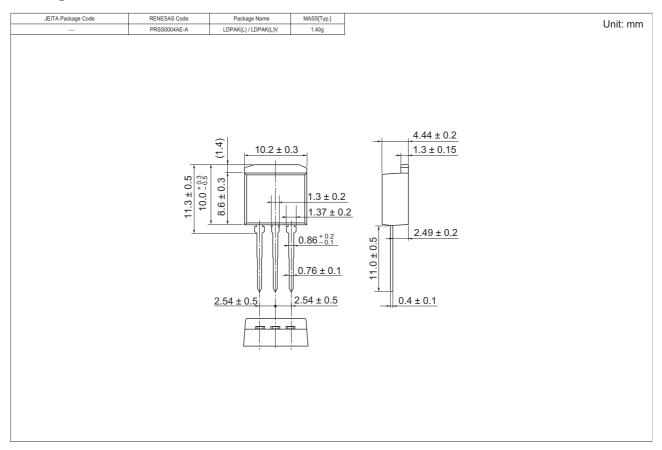


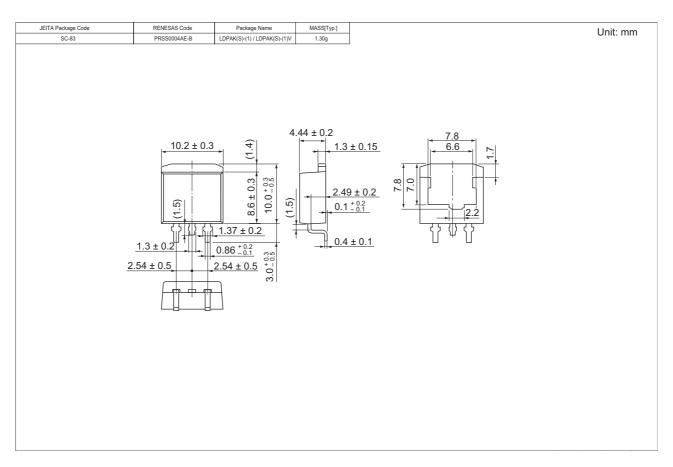


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Package Dimensions







Ordering Information

Part Name	Quantity	Shipping Container
2SK1636L-E	500 pcs	Box (Sack)
2SK1636STL-E	1000 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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