

H5N2522LS

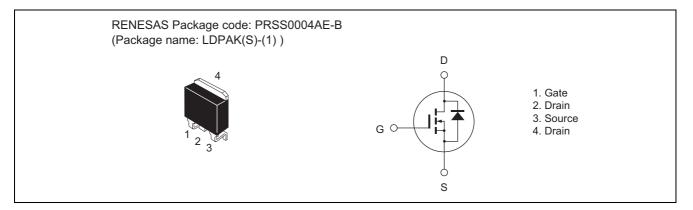
Silicon N Channel MOS FET High Speed Power Switching

> REJ03G1667-0100 Rev.1.00 Apr 23, 2008

## Features

- Low on-resistance
- Low leakage current
- High speed switching
- Built-in fast recovery diode

## Outline



# **Absolute Maximum Ratings**

			$(Ta = 25^{\circ}C)$
Item	Symbol	Ratings	Unit
Drain to source voltage	V <sub>DSS</sub>	250	V
Gate to source voltage	V <sub>GSS</sub>	±30	V
Drain current	I <sub>D</sub>	20	А
Drain peak current	I <sub>D (pulse)</sub> Note1	60	А
Body-drain diode reverse drain current	I <sub>DR</sub>	20	А
Body-drain diode reverse drain peak current	I <sub>DR (pulse)</sub> Note1	60	А
Avalanche current	I <sub>AP</sub> <sup>Note3</sup>	20	А
Avalanche energy	E <sub>AR</sub> <sup>Note3</sup>	25	mJ
Channel dissipation	Pch <sup>Note2</sup>	75	W
Channel to case thermal impedance	θch-c	1.67	°C/W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

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

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

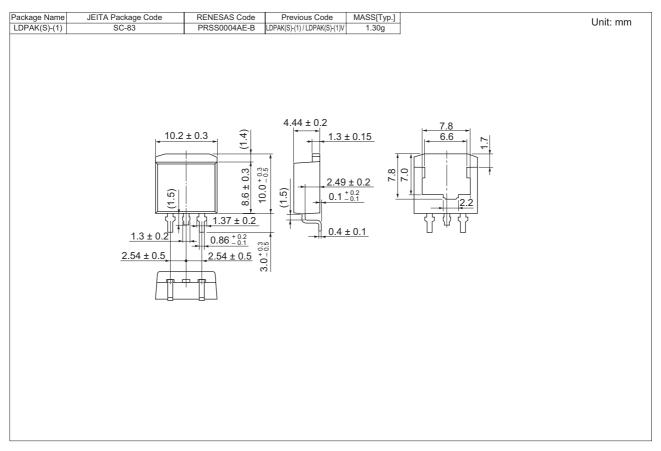
3. STch =  $25^{\circ}$ C, Tch  $\leq 150^{\circ}$ C

# **Electrical Characteristics**

						$(Ta = 25^{\circ}C)$
ltem	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source breakdown voltage	V <sub>(BR)DSS</sub>	250	—	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Zero gate voltage drain current	I <sub>DSS</sub>	_	—	10	μΑ	$V_{DS} = 250 \text{ V}, \text{ V}_{GS} = 0$
Gate to source leak current	I <sub>GSS</sub>	_	_	±0.1	μΑ	$V_{GS} = \pm 30$ V, $V_{DS} = 0$
Gate to source cutoff voltage	V <sub>GS(off)</sub>	1.5	—	4.0	V	$V_{DS} = 10 \text{ V}, \text{ I}_{D} = 1 \text{ mA}$
Static drain to source on state resistance	R <sub>DS(on)</sub>		0.14	0.18	Ω	$I_D = 10 \text{ A}, \text{ V}_{GS} = 10 \text{ V}^{\text{Note4}}$
Input capacitance	Ciss		1300		pF	$V_{DS} = 25 V$ $V_{GS} = 0$ f = 1 MHz
Output capacitance	Coss	_	185	_	pF	
Reverse transfer capacitance	Crss	_	62	_	pF	
Turn-on delay time	t <sub>d(on)</sub>		27	—	ns	$      I_D = 10 \text{ A} \\ V_{GS} = 10 \text{ V} \\ R_L = 12.5 \Omega \\ Rg = 10 \Omega $
Rise time	tr	-	41	—	ns	
Turn-off delay time	t <sub>d(off)</sub>	-	88	—	ns	
Fall time	t <sub>f</sub>	-	16	—	ns	
Total gate charge	Qg	-	47	—	nC	$V_{DD} = 200 V$ $V_{GS} = 10 V$ $I_D = 20 A$
Gate to source charge	Qgs	-	7	—	nC	
Gate to drain charge	Qgd	-	24.5	—	nC	
Body-drain diode forward voltage	V <sub>DF</sub>	—	0.99	1.54	V	$I_F = 20 \text{ A}, V_{GS} = 0^{Note4}$
Body-drain diode reverse recovery time	t <sub>rr</sub>	_	120	_	ns	I <sub>F</sub> = 20 A, V <sub>GS</sub> = 0 di <sub>F</sub> /dt = 100 A/μs

Notes: 4. Pulse test

# **Package Dimensions**



# **Ordering Information**

Part No.	Quantity	Shipping Container
H5N2522LSTL-E	1000 pcs	Taping

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