

2SK3446

Silicon N Channel Power MOS FET Power Switching

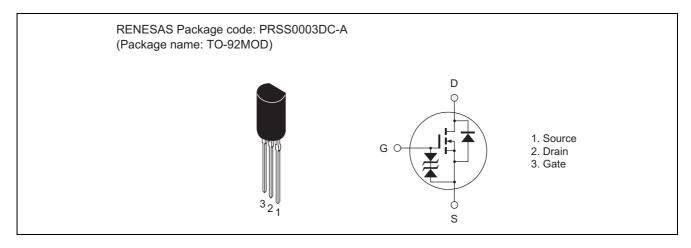
REJ03G1100-0800 (Previous: ADE-208-1566F)

> Rev.8.00 Sep 07, 2005

Features

- Capable of 2.5 V gate drive
- Low drive current
- Low on-resistance $R_{DS\;(on)} = 1.5\;\Omega\;typ.\;(at\;V_{GS} = 4\;V)$

Outline



Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

Item	Symbol	Value	Unit
Drain to source voltage	V _{DSS}	150	V
Gate to source voltage	V _{GSS}	±10	V
Drain current	I _D	1	A
Drain peak current	I _{D (pulse)} Note 1	4	A
Body-drain diode reverse drain current	I _{DR}	1	A
Channel dissipation	Pch Note 2	0.9	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 Ta = 25°C

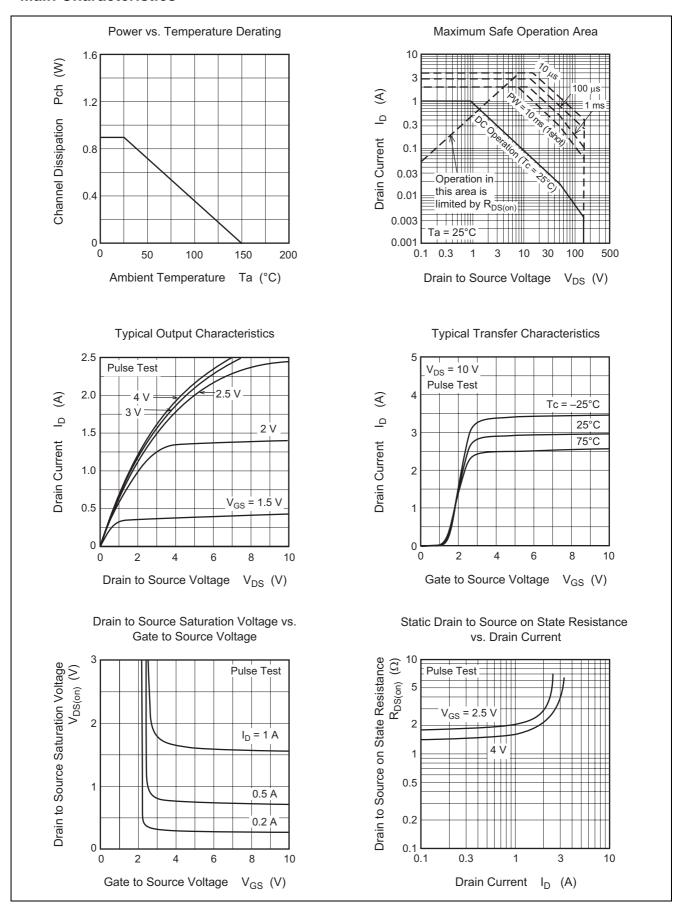
Electrical Characteristics

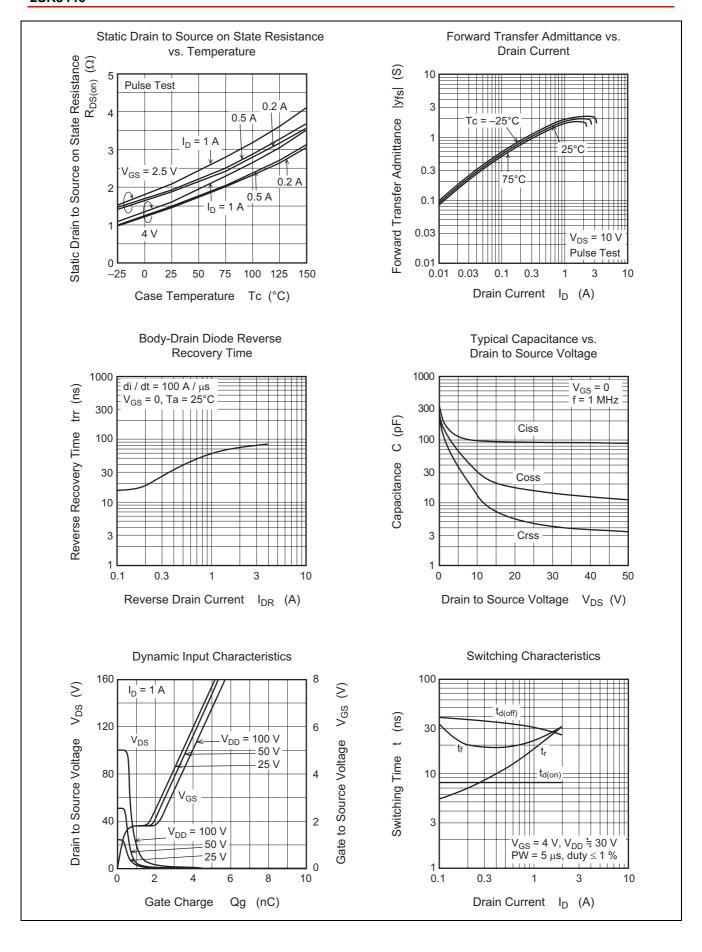
 $(Ta = 25^{\circ}C)$

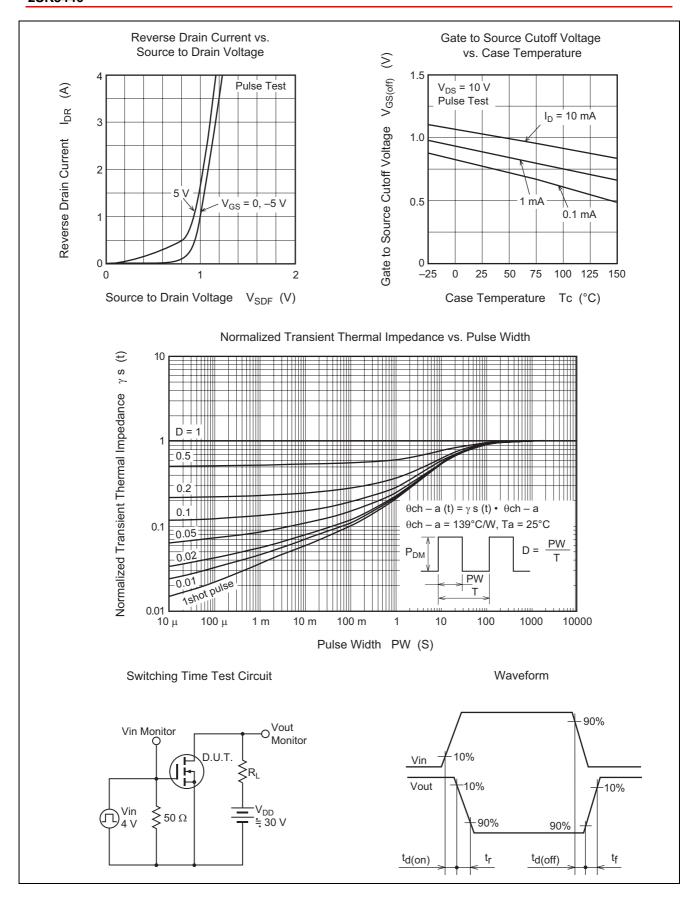
Item	Symbol	Min	Тур	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR) DSS}	150	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	V _{(BR) GSS}	±10	_	_	V	$I_G = \pm 100 \ \mu A, \ V_{DS} = 0$
Gate to source leak current	I _{GSS}	_	_	±10	μΑ	$V_{GS} = \pm 8 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	I _{DSS}	_	_	1	μΑ	$V_{DS} = 150 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	V _{GS (off)}	0.5	_	1.5	V	$V_{DS} = 10 \text{ V}, I_{D} = 1 \text{ mA}$
Static drain to source on state resistance	R _{DS (on)}	_	1.5	1.95	Ω	$I_D = 0.5 \text{ A}, V_{GS} = 4 \text{ V}^{\text{Note 3}}$
	R _{DS (on)}	_	1.9	2.5	Ω	$I_D = 0.5 \text{ A}, V_{GS} = 2.5 \text{ V}^{\text{Note 3}}$
Forward transfer admittance	y _{fs}	0.8	1.4	_	S	$I_D = 0.5 \text{ A}, V_{DS} = 10 \text{ V}^{\text{Note 3}}$
Input capacitance	Ciss	_	98	_	pF	V _{DS} = 10 V
Output capacitance	Coss	_	31	_	pF	$V_{GS} = 0$
Reverse transfer capacitance	Crss	_	14	_	pF	f = 1 MHz
Total gate charge	Qg	_	3.5	_	nC	V _{DD} = 100 V
Gate to source charge	Qgs	_	0.5	_	nC	$V_{GS} = 4 V$
Gate to drain charge	Qgd	_	1.8	_	nC	I _D = 1 A
Turn-on delay time	t _{d (on)}	_	8	_	ns	$V_{GS} = 4 V$
Rise time	t _r	_	12	_	ns	$I_D = 0.5 A$
Turn-off delay time	t _{d (off)}	_	34	_	ns	$R_L = 60 \Omega$
Fall time	t _f	_	19	_	ns	
Body-drain diode forward voltage	V_{DF}	_	1.0	1.5	V	$I_F = 1 \text{ A}, V_{GS} = 0$
Body-drain diode reverse recovery time	t _{rr}	_	60	_	ns	I _F = 1 A, V _{GS} = 0
						di _F /dt = 100 A/μs

Note: 3. Pulse test

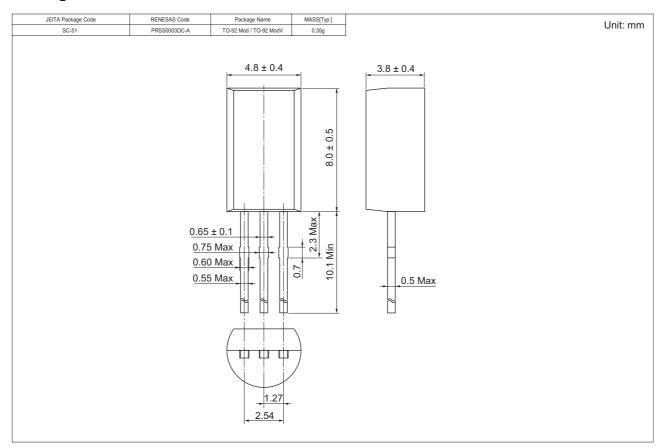
Main Characteristics







Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK3446TZ-E	2500 pcs	Hold box, Radial taping

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