

2SK2796L, 2SK2796S

Silicon N Channel MOS FET
High Speed Power Switching

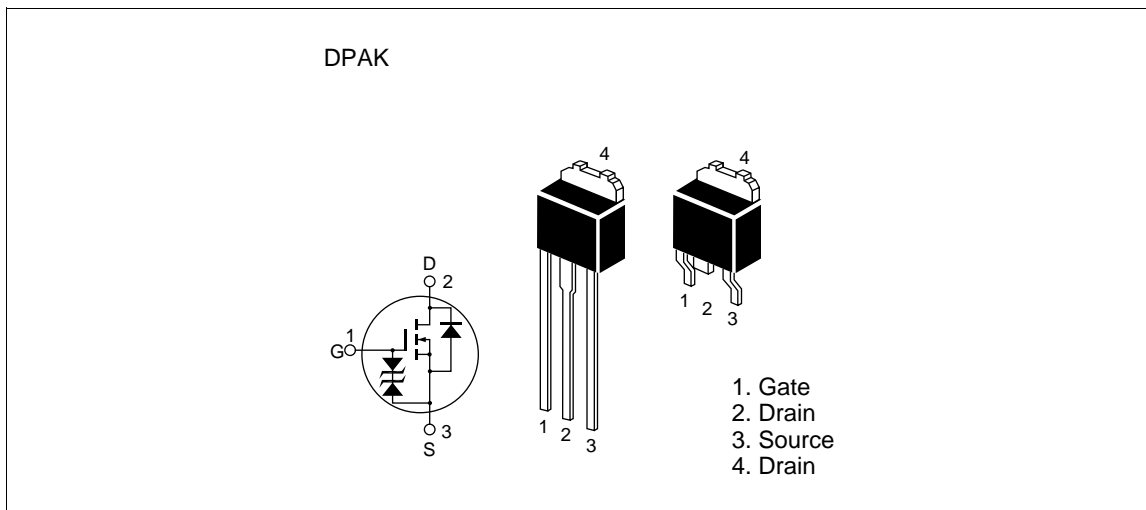
HITACHI

Target Specification 1st. Edition
October 1996

Features

- Low on-resistance
RDS(on) = 0.12Ω typ.
- 4V gate drive devices.
- High speed switching

Outline



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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	VDSS	60	V
Gate to source voltage	VGSS	±20	V
Drain current	ID	5	A
Drain peak current	ID(pulse)Note1	20	A
Body-drain diode reverse drain current	IDR	5	A
Avalanche current	IAP Note3	5	A
Avalanche energy	EAR Note3	2.14	mJ
Channel dissipation	Pch Note2	20	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

- Note: 1. $PW \leq 10\mu s$, duty cycle $\leq 1\%$
2. Value at $T_c = 25^\circ C$
3. Value at $T_{ch} = 25^\circ C$, $R_g \geq 50 \Omega$

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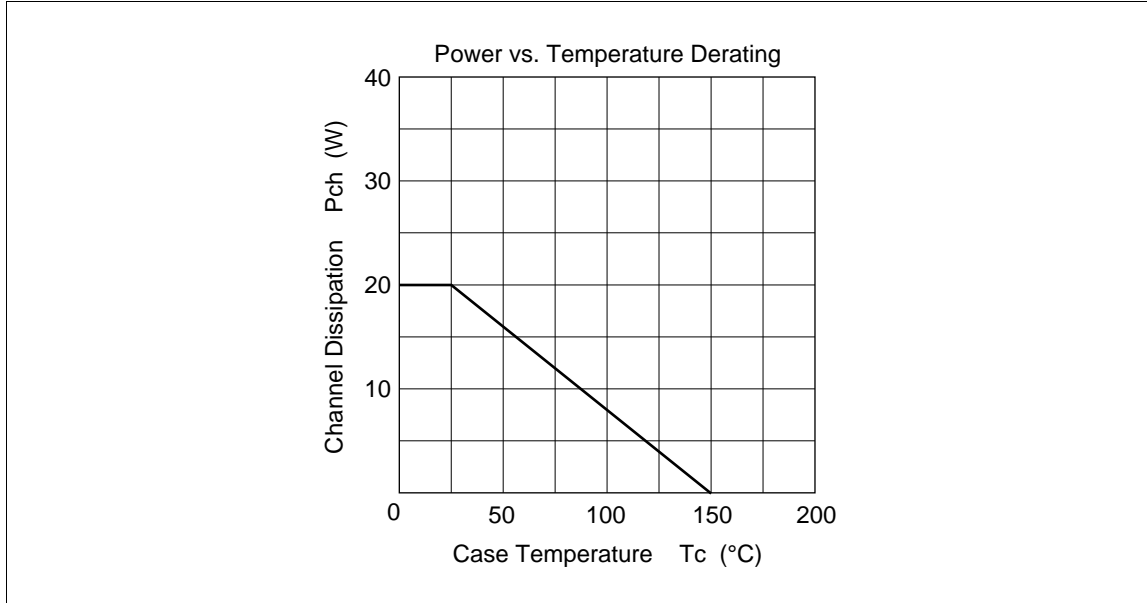
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V(BR)DSS	60	—	—	V	ID = 10mA, VGS = 0
Gate to source breakdown voltage	V(BR)GSS	±20	—	—	V	IG = ±100μA, VDS = 0
Zero gate voltage drain current	IDSS	—	—	10	μA	VDS = 60 V, VGS = 0
Gate to source leak current	IGSS	—	—	±10	μA	VGS = ±16V, VDS = 0
Gate to source cutoff voltage	VGS(off)	1.0	—	2.0	V	ID = 1mA, VDS = 10V
Static drain to source on state resistance	RDS(on)	—	0.12	0.16	Ω	ID = 3 A, VGS = 10V Note4
Static drain to source on state resistance	RDS(on)	—	0.16	0.25	Ω	ID = 3A, VGS = 4V Note4
Forward transfer admittance	yfs	2.5	4.0	—	S	ID = 3A, VDS = 10V Note4
Input capacitance	Ciss	—	180	—	pF	VDS = 10V
Output capacitance	Coss	—	90	—	pF	VGS = 0
Reverse transfer capacitance	Crss	—	30	—	pF	f = 1MHz
Turn-on delay time	td(on)	—	9	—	ns	VGS = 10V, ID = 3A
Rise time	tr	—	25	—	ns	RL = 12Ω
Turn-off delay time	td(off)	—	35	—	ns	
Fall time	tf	—	55	—	ns	
Body-drain diode forward voltage	VDF	—	1.0	—	V	ID = 5A, VGS = 0
Body-drain diode reverse recovery time	trr	—	40	—	ns	IF = 5A, VGS = 0 diF/ dt =50A/μs

Note: 4. Pulse test

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Main Characteristics



Package Dimensions

Unit: mm

