
2SK1342

Silicon N-Channel MOS FET

HITACHI

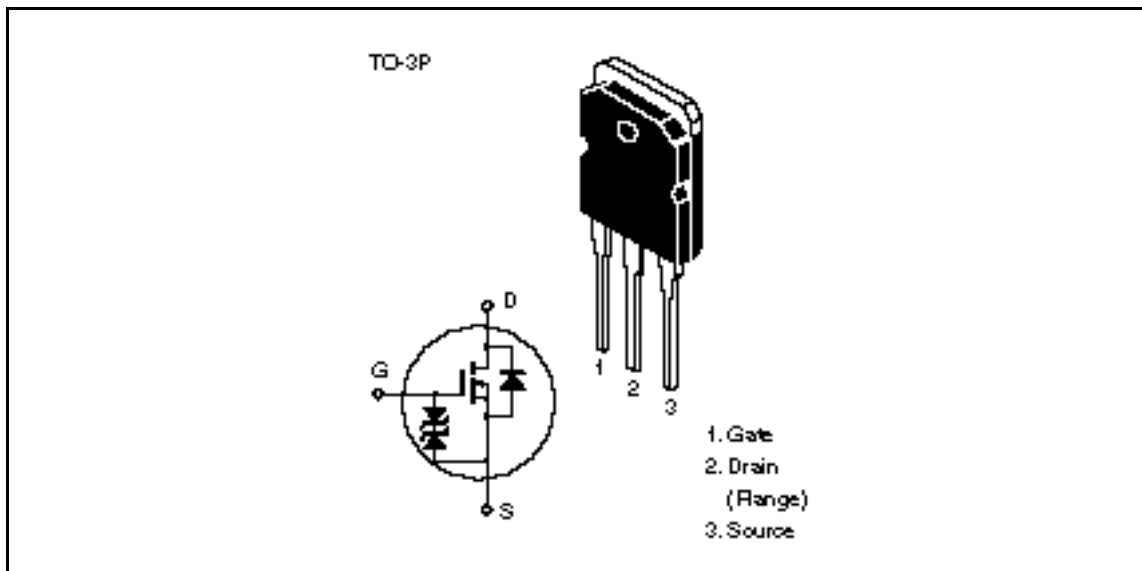
Application

High speed power switching

Features

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

Outline



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Absolute Maximum Ratings (Ta = 25°C)

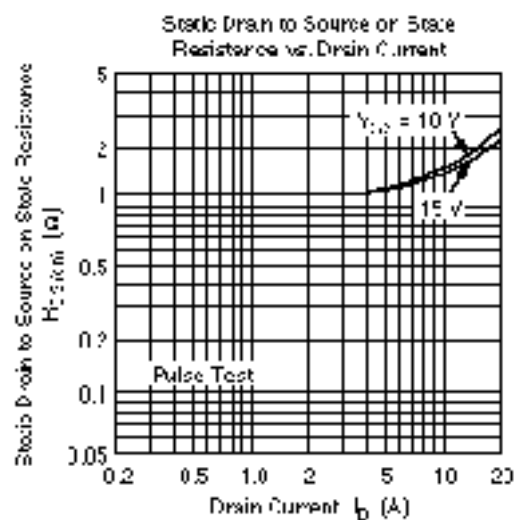
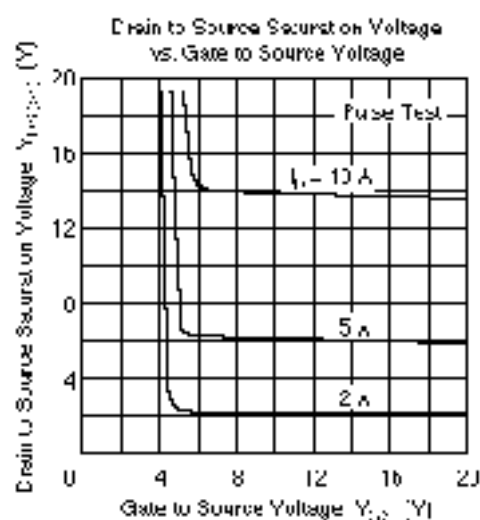
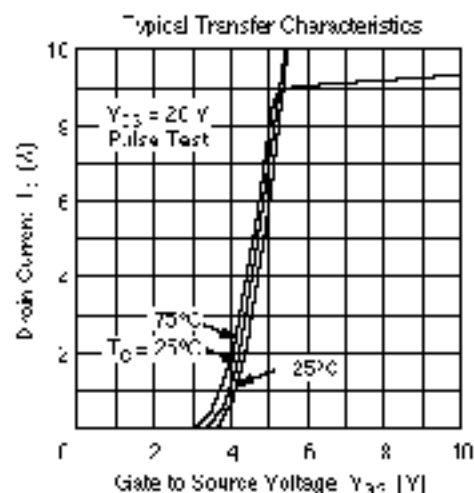
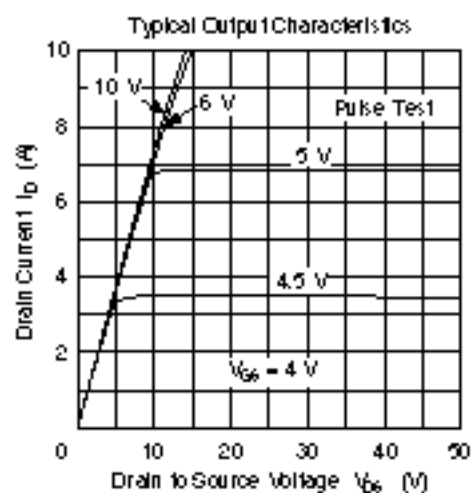
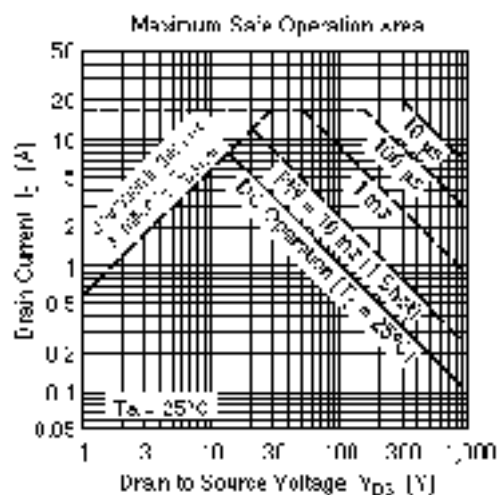
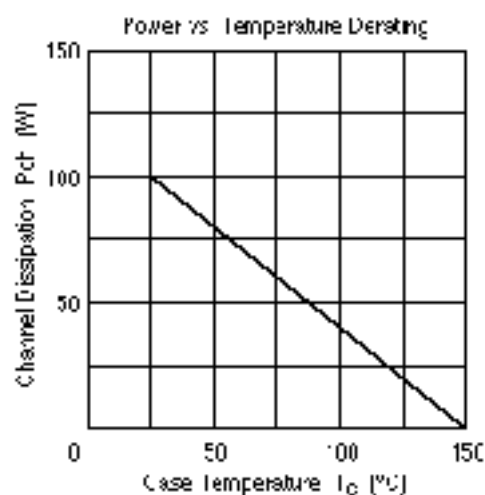
Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	900	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	8	A
Drain peak current	I _{D(pulse)} * ¹	20	A
Body to drain diode reverse drain current	I _{DR}	8	A
Channel dissipation	Pch* ²	100	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

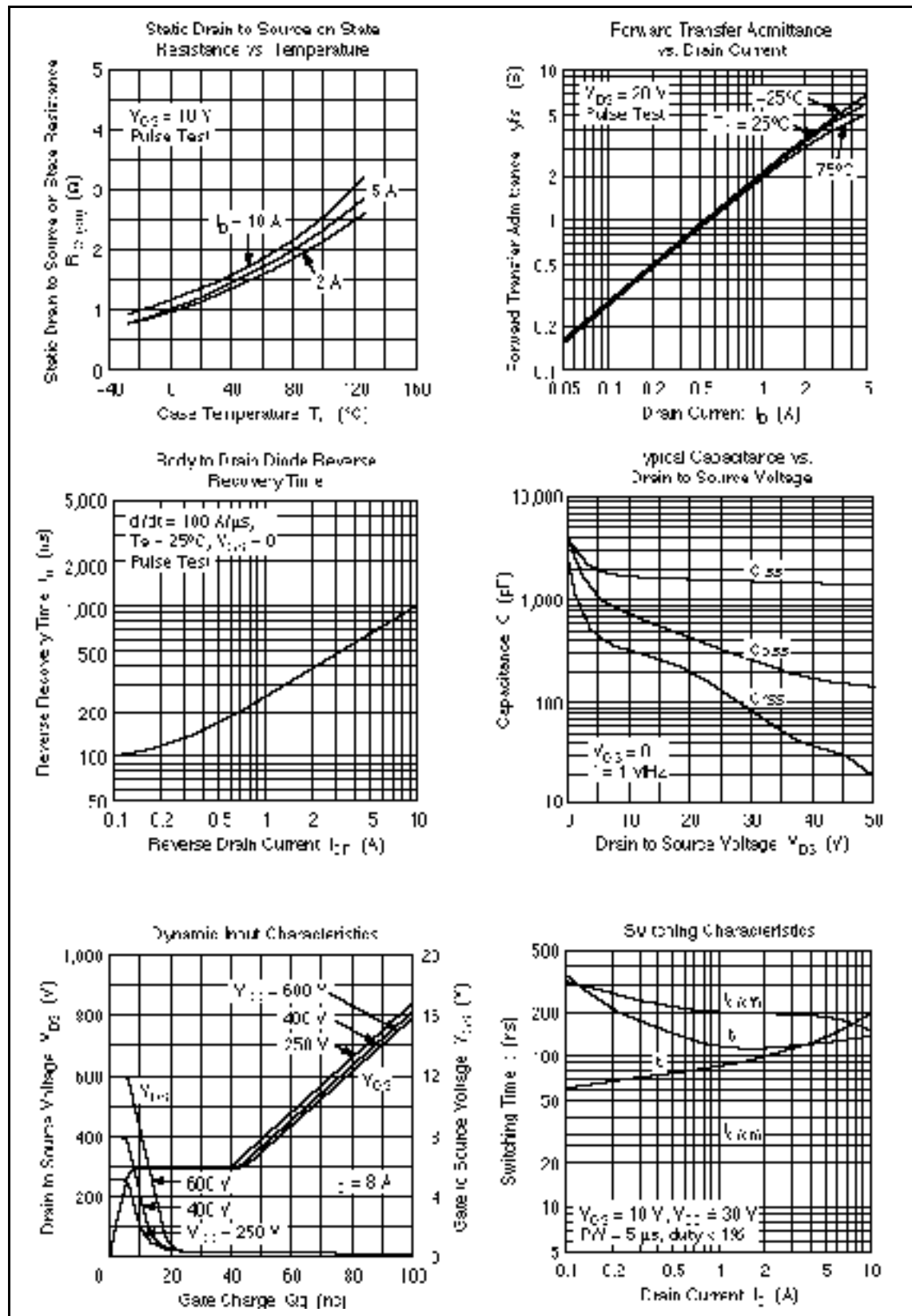
Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%
2. Value at T_c = 25°C

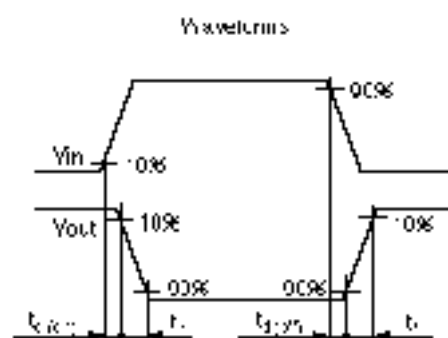
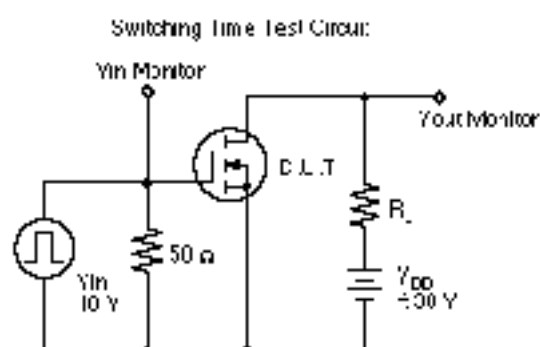
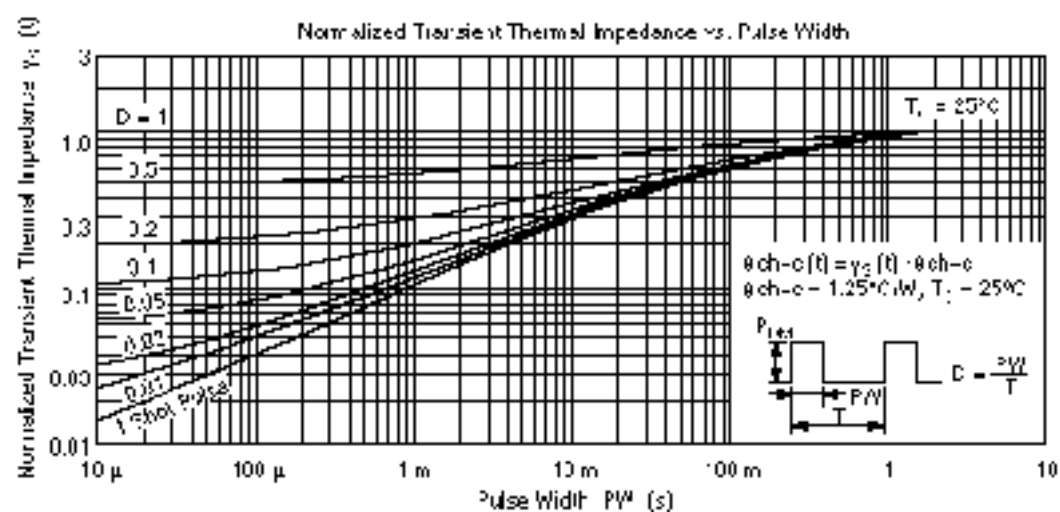
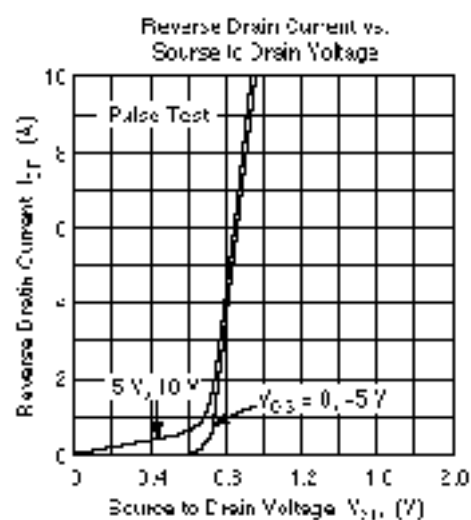
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	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	$I_G = \pm 100 \text{ } \mu\text{A}$, $V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	±10	μA	$V_{GS} = \pm 25 \text{ V}$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	250	μA	$V_{DS} = 720 \text{ V}$, $V_{GS} = 0$
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 resistance	$R_{DS(on)}$	—	1.2	1.6	W	$I_D = 4 \text{ A}$, $V_{GS} = 10 \text{ V}^{*1}$
Forward transfer admittance	$ y_{fs} $	3.5	5.5	—	S	$I_D = 4 \text{ A}$, $V_{DS} = 20 \text{ V}^{*1}$
Input capacitance	C_{iss}	—	1730	—	pF	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0$, $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	700	—	pF	
Reverse transfer capacitance	C_{rss}	—	310	—	pF	
Turn-on delay time	$t_{d(on)}$	—	25	—	ns	$I_D = 4 \text{ A}$, $V_{GS} = 10 \text{ V}$, $R_L = 7.5 \text{ W}$
Rise time	t_r	—	135	—	ns	
Turn-off delay time	$t_{d(off)}$	—	185	—	ns	
Fall time	t_f	—	130	—	ns	
Body to drain diode forward voltage	V_{DF}	—	0.9	—	V	$I_F = 8 \text{ A}$, $V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	900	—	ns	$I_F = 8 \text{ A}$, $V_{GS} = 0$, $di_F/dt = 100 \text{ A}/\mu\text{s}$

Note: 1. Pulse test







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