

2SK1808

Silicon N-Channel MOS FET

HITACHI

ADE-208-1322 (Z)

1st. Edition

Mar. 2001

Application

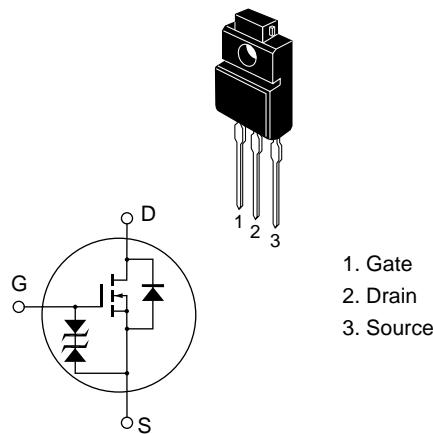
High speed power switching

Features

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

Outline

TO-220FM



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	4	A
Drain peak current	I _{D(pulse)} ^{*1}	10	A
Body to drain diode reverse drain current	I _{DR}	4	A
Channel dissipation	Pch ^{*2}	35	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	–55 to +150	°C

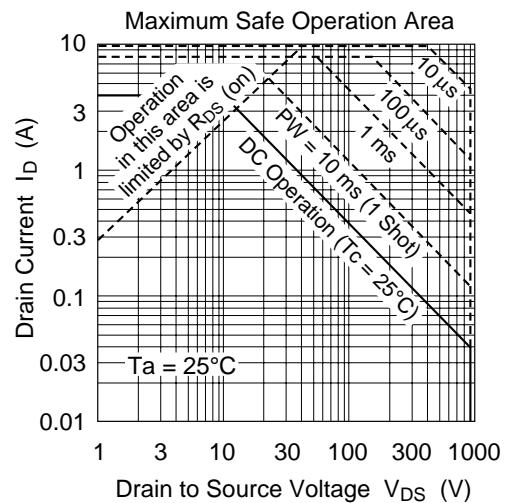
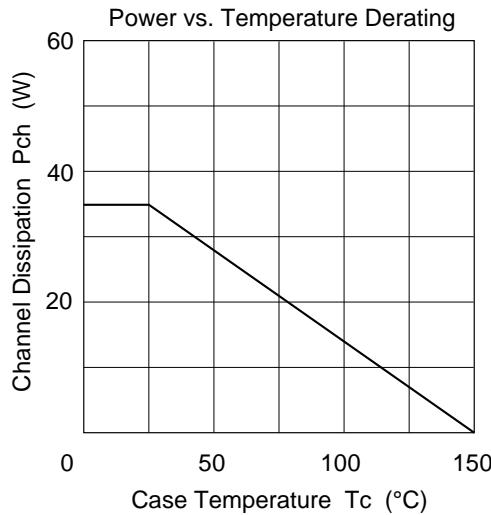
Notes 1. PW ≤ 10 µs, duty cycle ≤ 1 %
2. Value at Tc = 25 °C

Electrical Characteristics (Ta = 25°C)

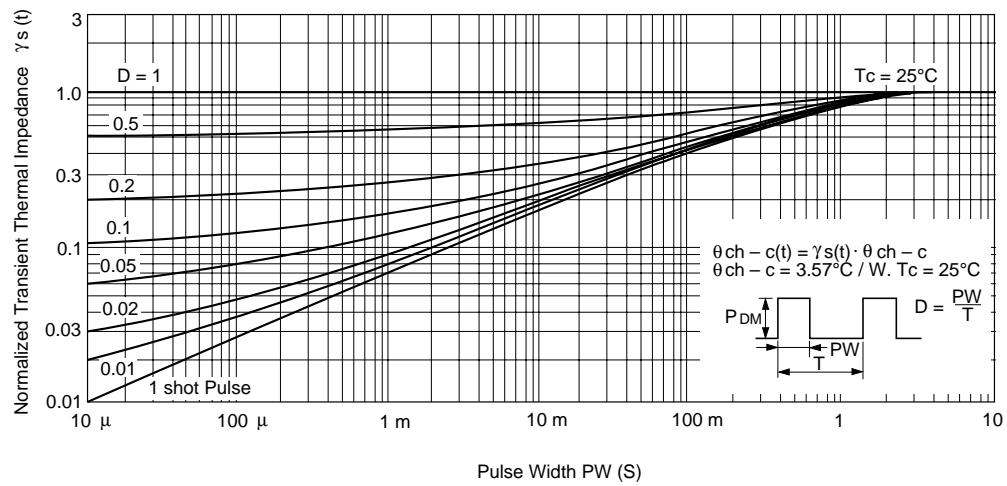
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR)DSS}	900	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±30	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±25 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	250	μA	V _{DS} = 720 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	3.0	V	I _D = 1 mA, V _{DS} = 10 V
Static drain to source on state resistance	R _{DS(on)}	—	3.0	4.0	Ω	I _D = 2 A V _{GS} = 10 V ^{*1}
Forward transfer admittance	y _{fs}	1.7	2.7	—	S	I _D = 2 A V _{DS} = 10 V ^{*1}
Input capacitance	C _{iss}	—	740	—	pF	V _{DS} = 10 V
Output capacitance	C _{oss}	—	305	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rss}	—	150	—	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	—	15	—	ns	I _D = 2 A
Rise time	t _r	—	60	—	ns	V _{GS} = 10 V
Turn-off delay time	t _{d(off)}	—	100	—	ns	R _L = 15 Ω
Fall time	t _f	—	80	—	ns	
Body to drain diode forward voltage	V _{DF}	—	0.9	—	V	I _F = 4 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	800	—	ns	I _F = 4 A, V _{GS} = 0, di _F / dt = 100 A / μs

Note 1. Pulse Test

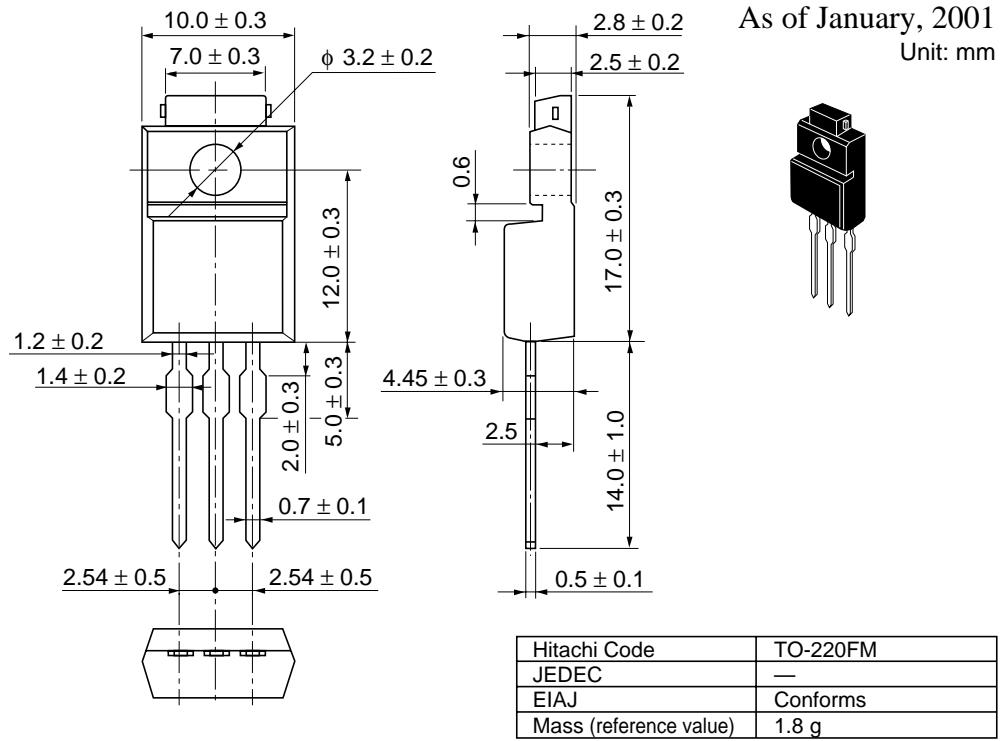
See characteristic curves of 2SK1340



Normalized Transient Thermal Impedance vs. Pulse Width



Package Dimensions



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