2SK3378

Silicon N Channel MOS FET
High Speed Switching

HITACHI

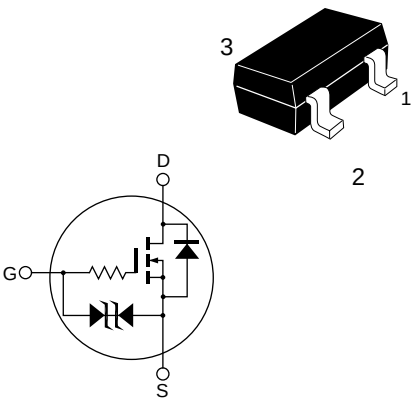
ADE-208-805 (Z)
1st.Edition.
June 1999

Features

- Low on-resistance
  R_{DS} =2.7 Ω typ. (V_{GS} = 10 V , I_D = 50 mA)
  R_{DS} = 4.7 Ω typ. (V_{GS} = 4 V , I_D = 20 mA)
- 4 V gate drive device.
- Small package (CMPAK)

Outline

CMPAK



1. Source
2. Gate
3. Drain

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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	30	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I_D	100	mA
Drain peak current	$I_{D(pulse)}$ Note1	400	mA
Body-drain diode reverse drain current	I_{DR}	100	mA
Channel dissipation	Pch Note 2	300	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

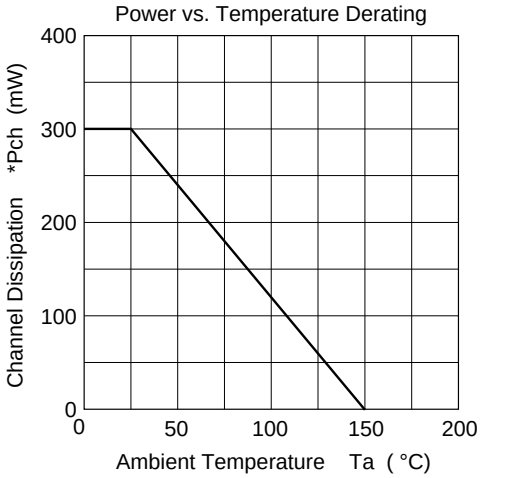
Note: 1. PW ≤ 10 µs, duty cycle ≤ 1%
2. Value on the alumina ceramic board (12.5 x 20 x 0.7 mm)

Electrical Characteristics (Ta = 25°C)

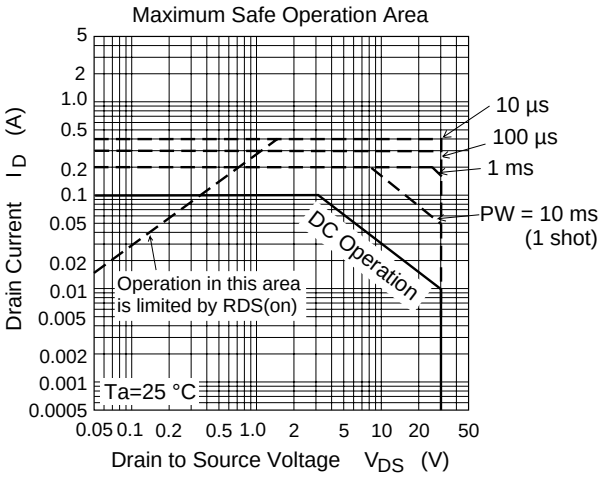
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	30	—	—	V	I_D = 100 µA, V_{GS} = 0
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	—	—	V	I_G = ±100 µA, V_{DS} = 0
Gate to source leak current	I_{GSS}	—	—	±5	µA	V_{GS} = ±16 V, V_{DS} = 0
Zero gate voltege drain current	I_{DSS}	—	—	1	µA	V_{DS} = 30 V, V_{GS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	1.3	—	2.3	V	I_D = 10µA, V_{DS} = 5 V
Static drain to source on state resistance	$R_{DS(on)}$	—	2.7	3.5	Ω	I_D = 50 mA,V_{GS} = 10 V Note 3
	$R_{DS(on)}$	—	4.7	7.0	Ω	I_D = 20 mA,V_{GS} = 4 V Note 3
Forward transfer admittance	$\|y_{fs}\|$	55	85	—	mS	I_D = 50 mA, V_{DS} =10 V Note 3
Input capacitance	Ciss	—	1.6	—	pF	V_{DS} = 10 V
Output capacitance	Coss	—	7	—	pF	V_{GS} = 0
Reverse transfer capacitance	Crss	—	0.5	—	pF	f = 1 MHz
Turn-on delay time	$t_{d(on)}$	—	100	—	ns	I_D = 50 mA, V_{GS} = 10 V
Rise time	t_r	—	330	—	ns	R_L = 200 Ω
Turn-off delay time	$t_{d(off)}$	—	1150	—	ns	
Fall time	t_f	—	940	—	ns	

Note: 3. Pulse test
4. Marking is EN
See characteristics curves of 2SK3288

Main Characteristics



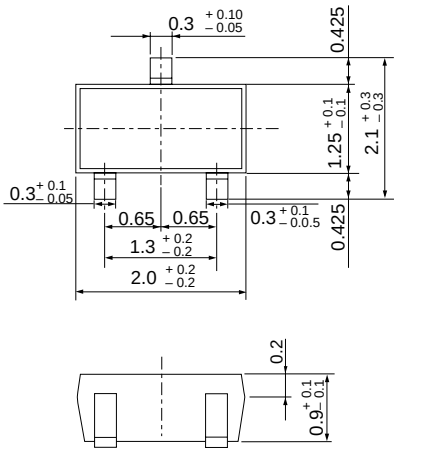
*Value on the alumina ceramic boad.(12.5x20x0.7mm)

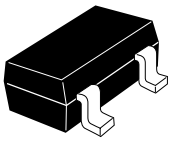


Value on the alumina ceramic boad. (12.5x20x0.7mm)

Package Dimensions

Unit: mm





Hitachi Code	CMPAK
EIAJ	SC–70
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