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# 2SK3076(L),2SK3076(S)

Silicon N Channel MOS FET  
High Speed Power Switching

# HITACHI

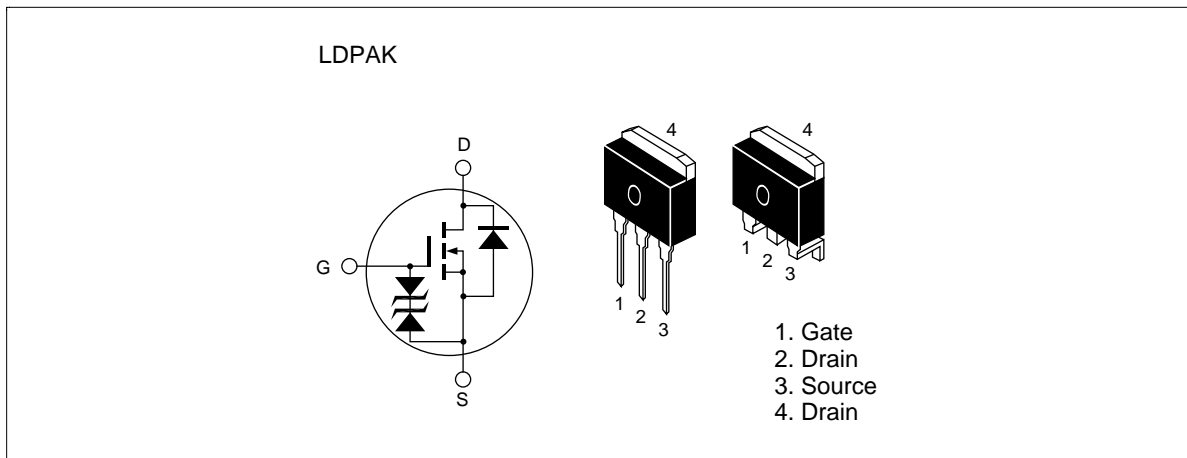
ADE-208-656 (Z)  
1st. Edition  
Jun 1998

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## Features

- Low on-resistance
- High speed switching
- Low drive current.
- Built-in fast recovery diode ( $t_{rr}=120$  ns)

## Outline



## 2SK3076(L),2SK3076(S)

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	500	V
Gate to source voltage	$V_{GSS}$	±30	V
Drain current	$I_D$	7	A
Drain peak current	$I_{D(pulse)}$ <sup>Note1</sup>	28	A
Body-drain diode reverse drain current	$I_{DR}$	7	A
Channel dissipation	$P_{ch}$ <sup>Note2</sup>	60	W
Channel temperature	$T_{ch}$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

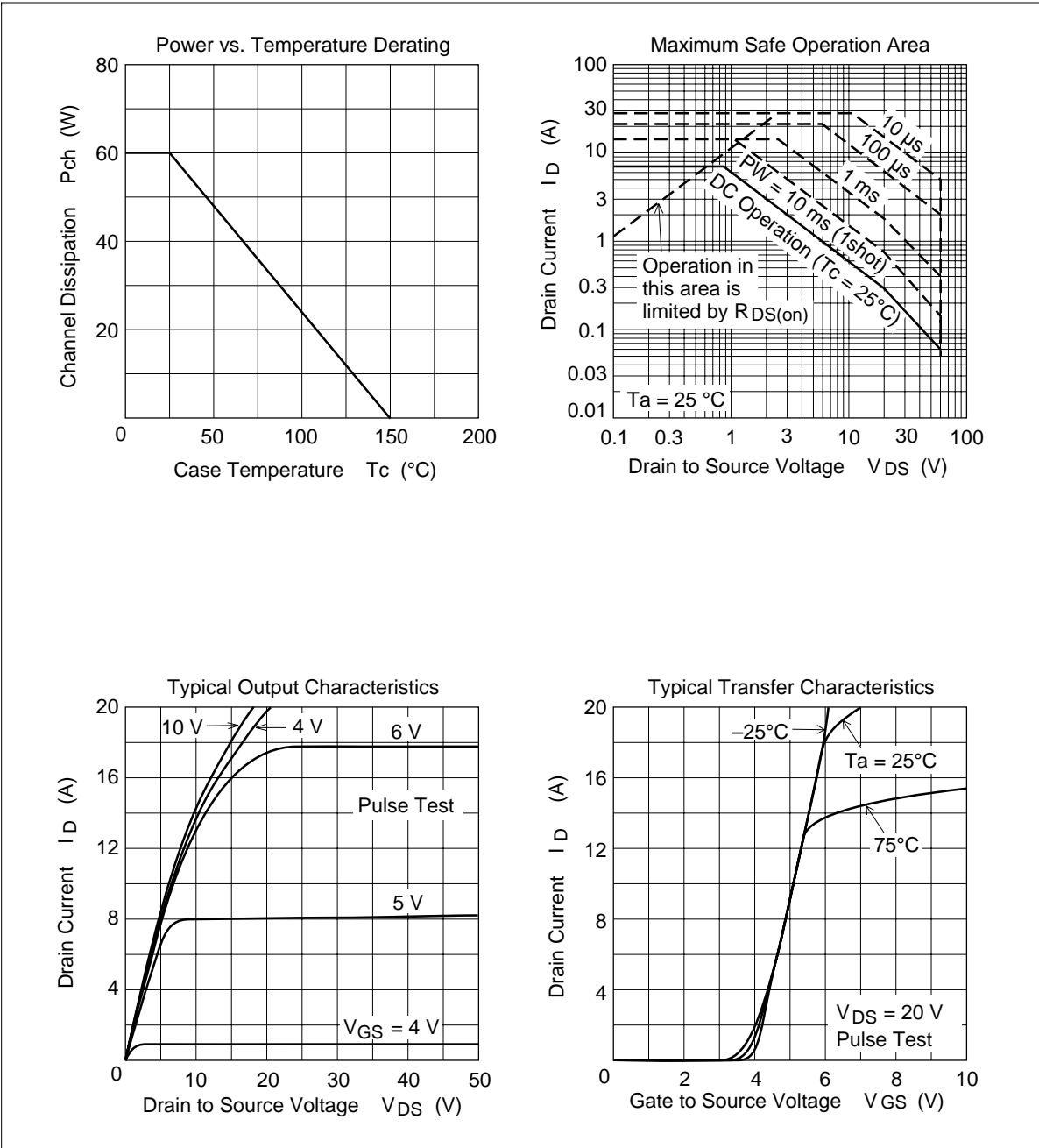
Note: 1.  $PW \leq 10\mu s$ , duty cycle  $\leq 1\%$   
 2. Value at  $T_c = 25^\circ C$

### Electrical Characteristics (Ta = 25°C)

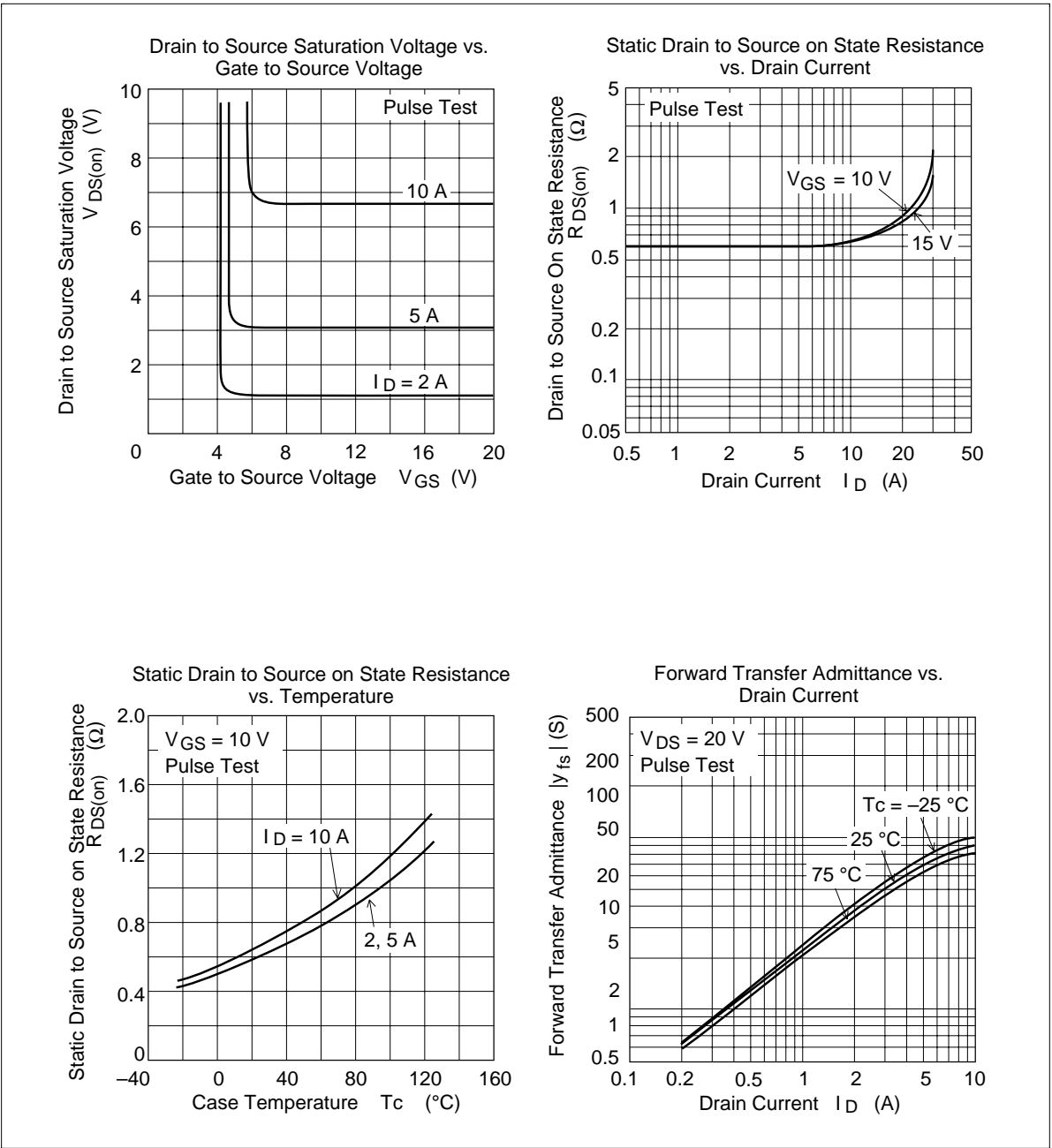
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	500	—	—	V	$I_D = 10mA$ , $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±30	—	—	V	$I_G = \pm 100\mu A$ , $V_{DS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	±10	μA	$V_{GS} = \pm 25V$ , $V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	250	μA	$V_{DS} = 400V$ , $V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	2.0	—	3.0	V	$I_D = 1mA$ , $V_{DS} = 10V$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.7	0.9	Ω	$I_D = 4A$ , $V_{GS} = 10V$ <sup>Note4</sup>
Forward transfer admittance	$ y_{fs} $	3.5	6.0	—	S	$I_D = 4A$ , $V_{DS} = 10V$ <sup>Note4</sup>
Input capacitance	$C_{iss}$	—	1100	—	pF	$V_{DS} = 10V$
Output capacitance	$C_{oss}$	—	310	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	$C_{rss}$	—	50	—	pF	$f = 1MHz$
Turn-on delay time	$t_{d(on)}$	—	15	—	ns	$I_D = 4A$ , $V_{GS} = 10V$
Rise time	$t_r$	—	55	—	ns	$R_L = 7.5\Omega$
Turn-off delay time	$t_{d(off)}$	—	100	—	ns	
Fall time	$t_f$	—	48	—	ns	
Body-drain diode forward voltage	$V_{DF}$	—	0.9	—	V	$I_F = 7A$ , $V_{GS} = 0$
Body-drain diode reverse recovery time	$t_{rr}$	—	120	—	ns	$I_F = 7A$ , $V_{GS} = 0$ $diF/dt = 100A/\mu s$

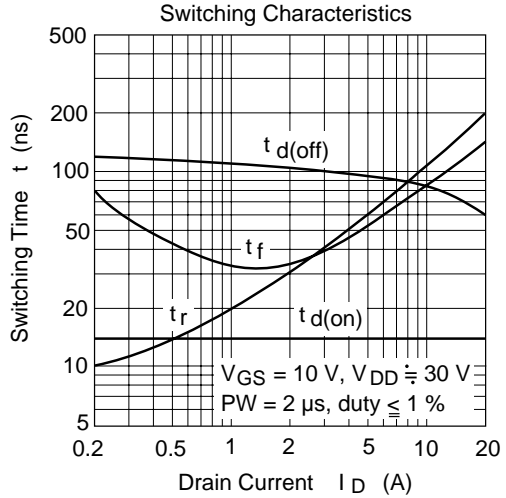
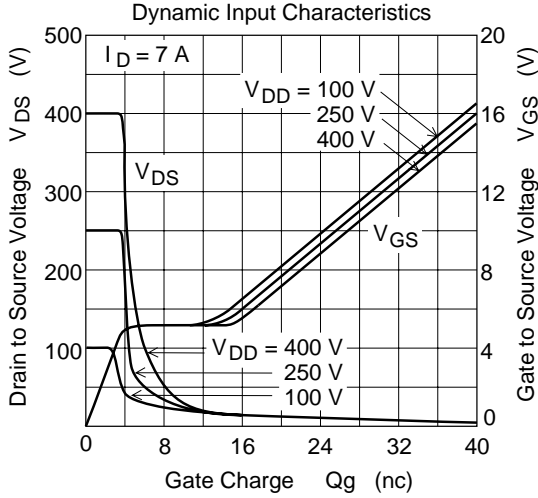
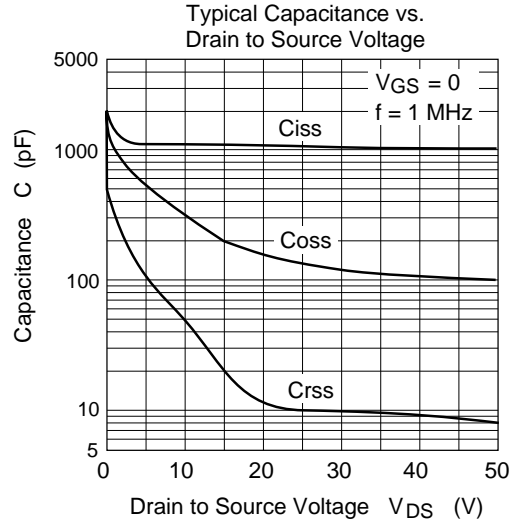
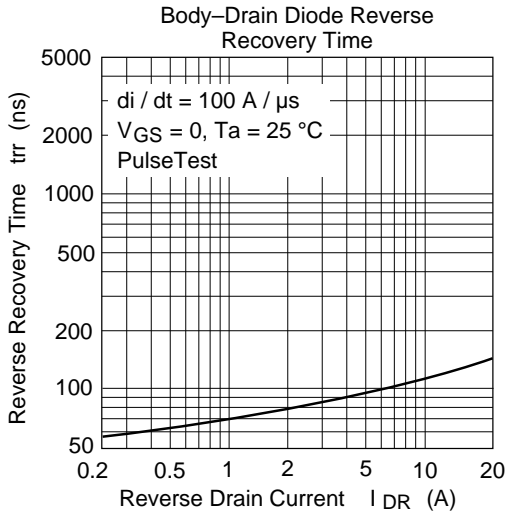
Note: 4. Pulse test

Main Characteristics

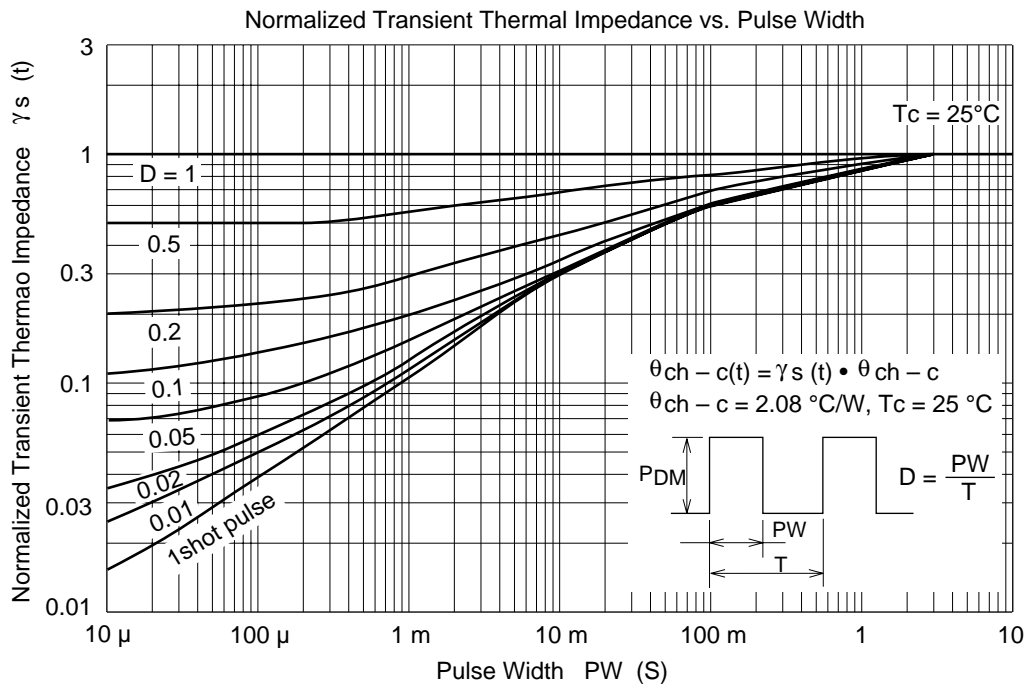
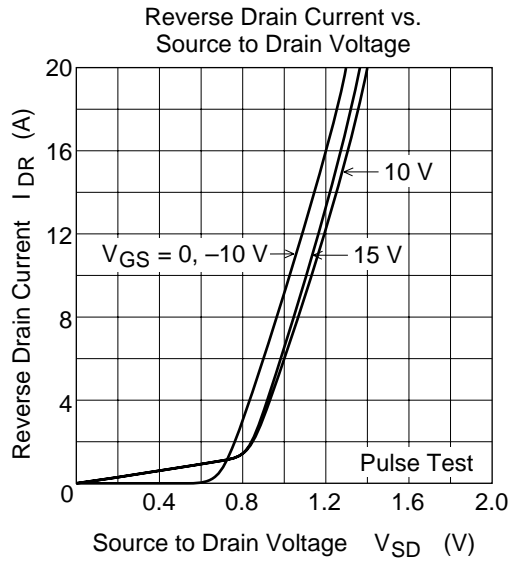


# 2SK3076(L), 2SK3076(S)

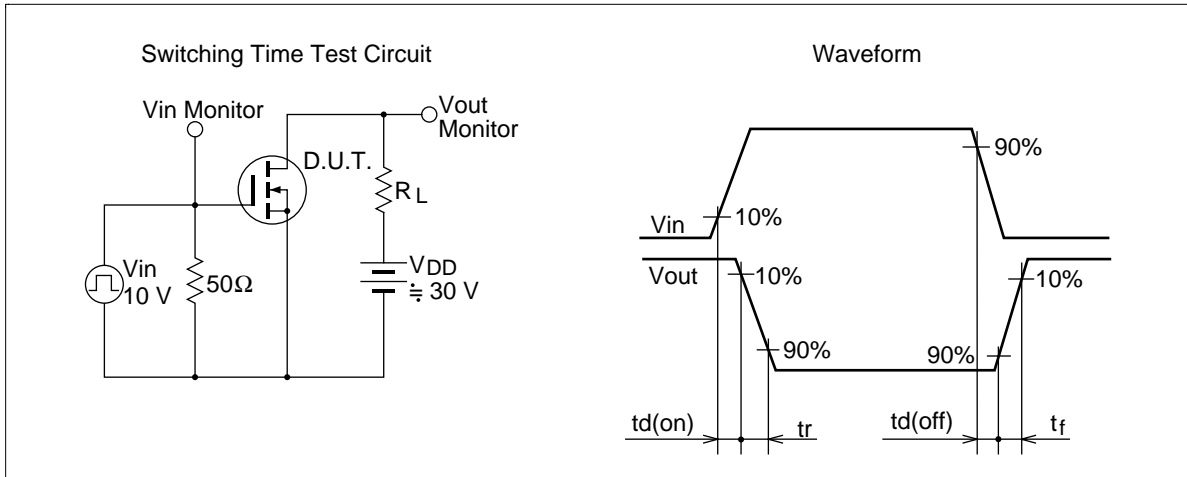




## 2SK3076(L), 2SK3076(S)



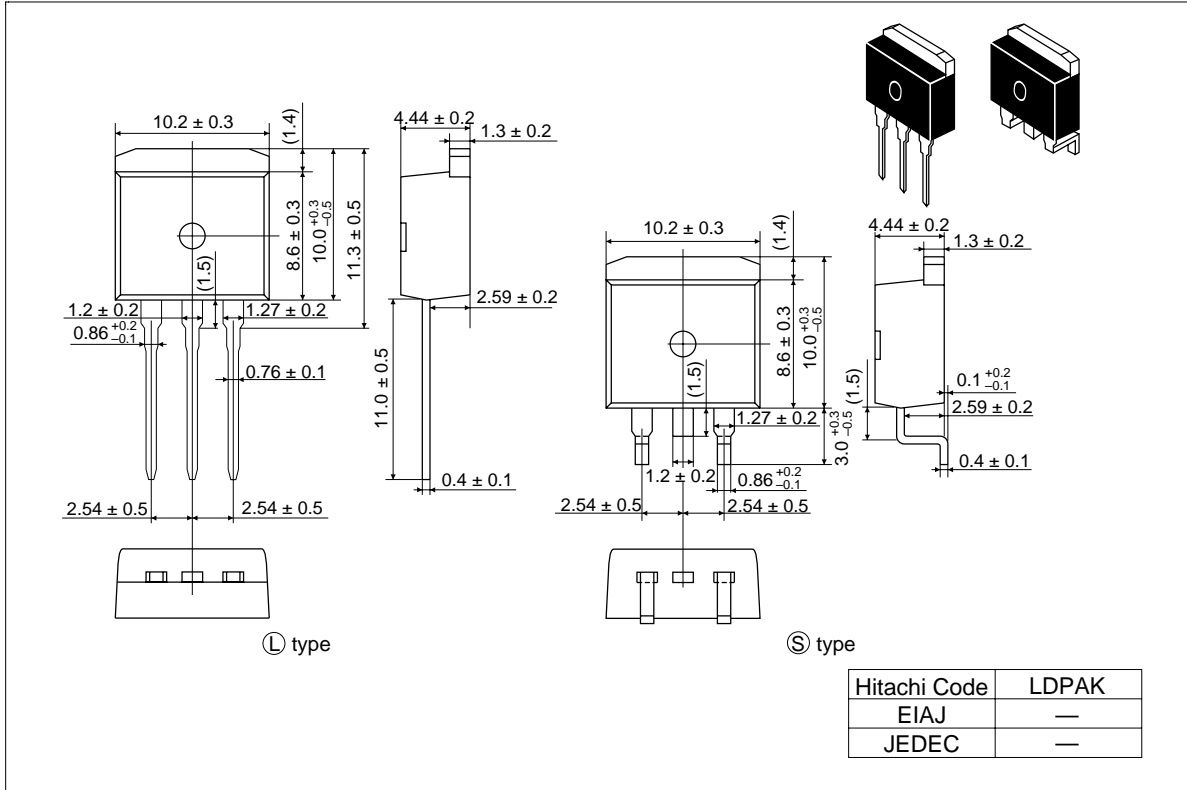
**2SK3076(L),2SK3076(S)**



# 2SK3076(L),2SK3076(S)

## Package Dimensions

Unit: mm





## Cautions

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# HITACHI

## Hitachi, Ltd.

Semiconductor & IC Div.  
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan  
Tel: Tokyo (03) 3270-2111  
Fax: (03) 3270-5109

### For further information write to:

Hitachi Semiconductor (America) Inc. 2000 Sierra Point Parkway Brisbane, CA. 94005-1897 U S A Tel: 800-285-1601 Fax:303-297-0447	Hitachi Europe GmbH Continental Europe Dornacher Straße 3 D-85622 Feldkirchen München Tel: 089-9 91 80-0 Fax: 089-9 29 30-00	Hitachi Europe Ltd. Electronic Components Div. Northern Europe Headquarters Whitebrook Park Lower Cookham Road Maidenhead Berkshire SL6 8YA United Kingdom Tel: 01628-585000 Fax: 01628-585160	Hitachi Asia Pte. Ltd. 16 Collyer Quay #20-00 Hitachi Tower Singapore 049318 Tel: 535-2100 Fax: 535-1533	Hitachi Asia (Hong Kong) Ltd. Unit 706, North Tower, World Finance Centre, Harbour City, Canton Road Tsim Sha Tsui, Kowloon Hong Kong Tel: 27359218 Fax: 27306071
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