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# 2SK2958(L), 2SK2958(S)

Silicon N Channel MOS FET  
High Speed Power Switching

## HITACHI

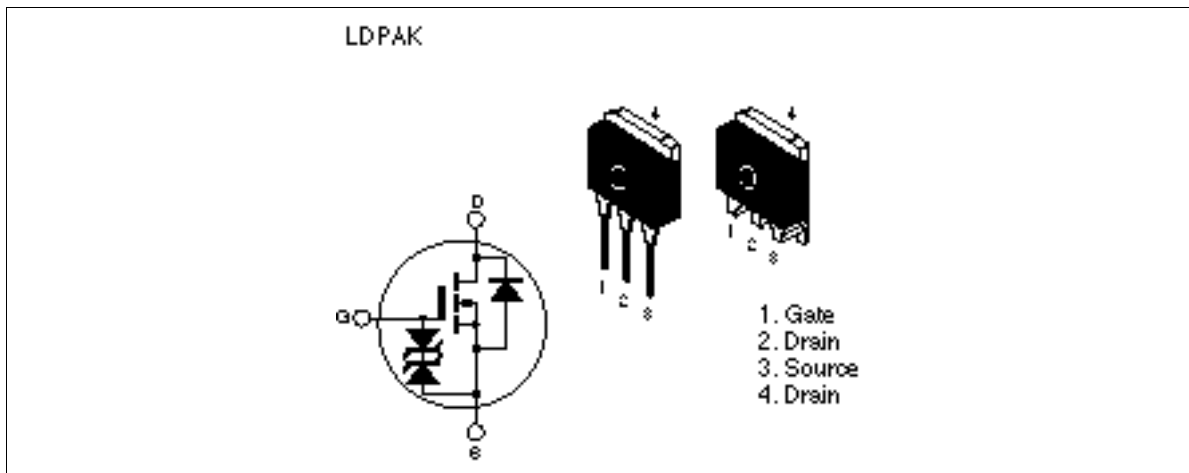
ADE-208-568  
Target specification 1st. Edition

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### Features

- Low on-resistance  
 $R_{DS(on)} = 5.5m\Omega$  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	V <sub>DSS</sub>	30	V
Gate to source voltage	V <sub>GSS</sub>	±20	V
Drain current	I <sub>D</sub>	75	A
Drain peak current	I <sub>D(pulse)</sub> * <sup>1</sup>	300	A
Body to drain diode reverse drain current	I <sub>DR</sub>	75	A
Channel dissipation	P <sub>ch</sub> * <sup>2</sup>	100	W
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

Notes: 1. PW ≤ 10μs, duty cycle ≤ 1 %

2. Value at T<sub>c</sub> = 25°C

## 2SK2958(L), 2SK2958(S)

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

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	30	—	—	V	$I_D = 10\text{mA}$ , $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	$\pm 20$	—	—	V	$I_G = \pm 100\mu\text{A}$ , $V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	10	$\mu\text{A}$	$V_{DS} = 30\text{V}$ , $V_{GS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 10$	$\mu\text{A}$	$V_{GS} = \pm 16\text{V}$ , $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	1.0	—	2.0	V	$I_D = 1\text{mA}$ , $V_{DS} = 10\text{V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	5.5	7.0	$\text{m}\Omega$	$I_D = 40\text{A}$ , $V_{GS} = 10\text{V}^{*1}$
	$R_{DS(on)}$	—	9.0	14.0	$\text{m}\Omega$	$I_D = 40\text{A}$ , $V_{GS} = 4\text{V}^{*1}$
Forward transfer admittance	$ y_{fs} $	35	60	—	S	$I_D = 40\text{A}$ , $V_{DS} = 10\text{V}^{*1}$
Input capacitance	$C_{iss}$	—	4100	—	pF	$V_{DS} = 10\text{V}$
Output capacitance	$C_{oss}$	—	2700	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	$C_{rss}$	—	800	—	pF	$f = 1\text{MHz}$
Turn-on delay time	$t_{d(on)}$	—	45	—	ns	$V_{GS} = 10\text{V}$ , $I_D = 40\text{A}$
Rise time	$t_r$	—	430	—	ns	$R_L = 0.25\Omega$
Turn-off delay time	$t_{d(off)}$	—	460	—	ns	
Fall time	$t_f$	—	440	—	ns	
Body to drain diode forward voltage	$V_{DF}$	—	1.0	—	V	$I_D = 75\text{A}$ , $V_{GS} = 0$
Body to drain diode reverse recovery time	$t_{rr}$	—	200	—	ns	$I_F = 75\text{A}$ , $V_{GS} = 0$ $di_F/dt = 50\text{A}/\mu\text{s}$

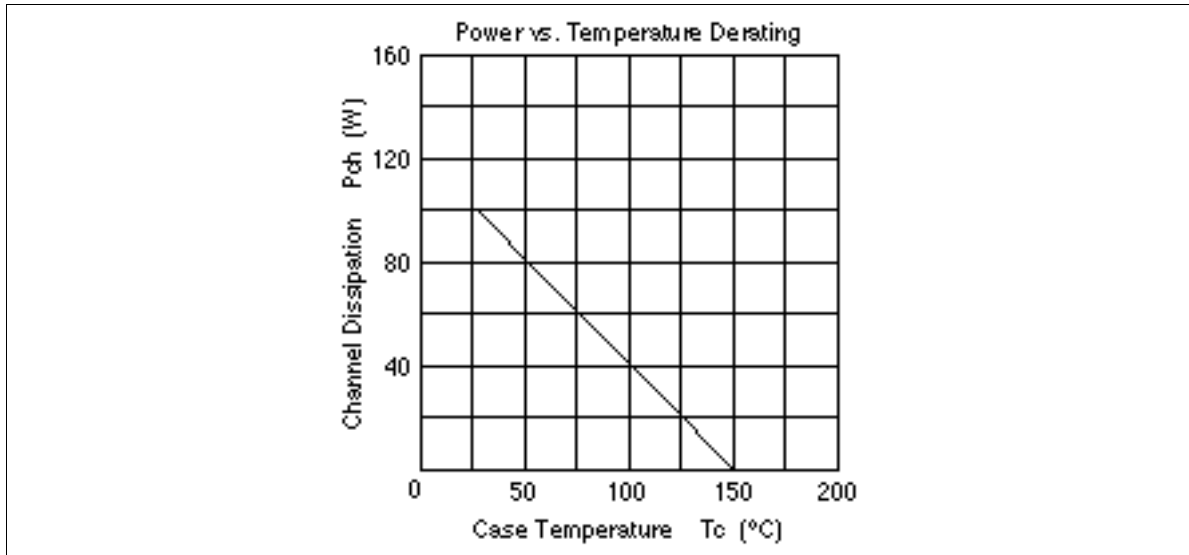
Note: 1. Pulse test

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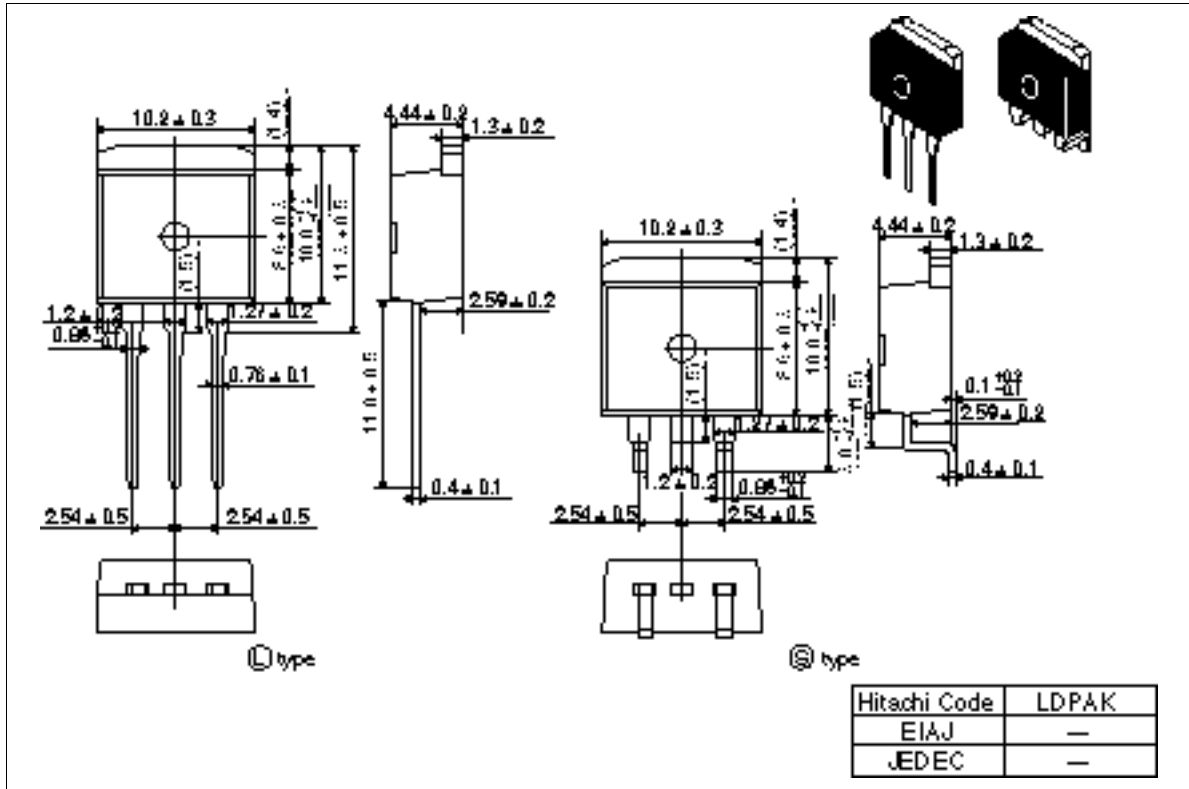
### Main Characteristics



2SK2958(L), 2SK2958(S)

Package Dimensions

Unit: mm



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## 2SK2958(L), 2SK2958(S)

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# HITACHI

## Hitachi, Ltd.

Semiconductor & IC Div.  
Nippon Bldg, 2-5-2, Ohba-machi, Chiyoda-ku, Tokyo 100, Japan  
Tel Tokyo (03) 3270-2111  
Fax (03) 3270-5109

For further information write to:

Hitachi America, Ltd.  
Semiconductor & IC Div.  
2000 Sierra Point Parkway  
Brisbane, CA, 94005-1835  
U.S.A.  
Tel 415-589-8300  
Fax 415-589-4207

Hitachi Europe GmbH  
Electronic Components Group  
Continental Europe  
Danneberg Straße 3  
D-85622 Feldkirchen  
München  
Tel 089-9 24 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 3YX  
United Kingdom  
Tel 0628-585000  
Fax 0628-778322

Hitachi Asia Pte. Ltd.  
15 Collyer Quay #20-00  
Hitachi Tower  
Singapore 0104  
Tel 535-2100  
Fax 535-1533

Hitachi Asia (Hong Kong) Ltd.  
Unit 705, North Tower,  
World Finance Centre  
Harbour City, Canton Road  
Tsim Sha Tsui, Kowloon  
Hong Kong  
Tel 27359218  
Fax 27308074

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