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# 2SK1626, 2SK1627

Silicon N-Channel MOS FET

# HITACHI

ADE-208-1302 (Z)  
1st. Edition  
Mar. 2001

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## Application

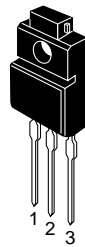
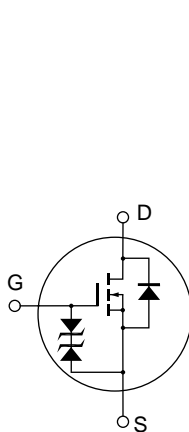
High speed power switching

## Features

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

## Outline

TO-220FM



1. Gate
2. Drain
3. Source

## 2SK1626, 2SK1627

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

Item		Symbol	Ratings	Unit
Drain to source voltage	2SK1626	$V_{DSS}$	450	V
	2SK1627		500	
Gate to source voltage		$V_{GSS}$	±30	V
Drain current		$I_D$	5	A
Drain peak current		$I_{D(pulse)}$ <sup>*1</sup>	20	A
Body to drain diode reverse drain current		$I_{DR}$	5	A
Channel dissipation		$P_{ch}$ <sup>*2</sup>	35	W
Channel temperature		$T_{ch}$	150	°C
Storage temperature		$T_{stg}$	-55 to +150	°C

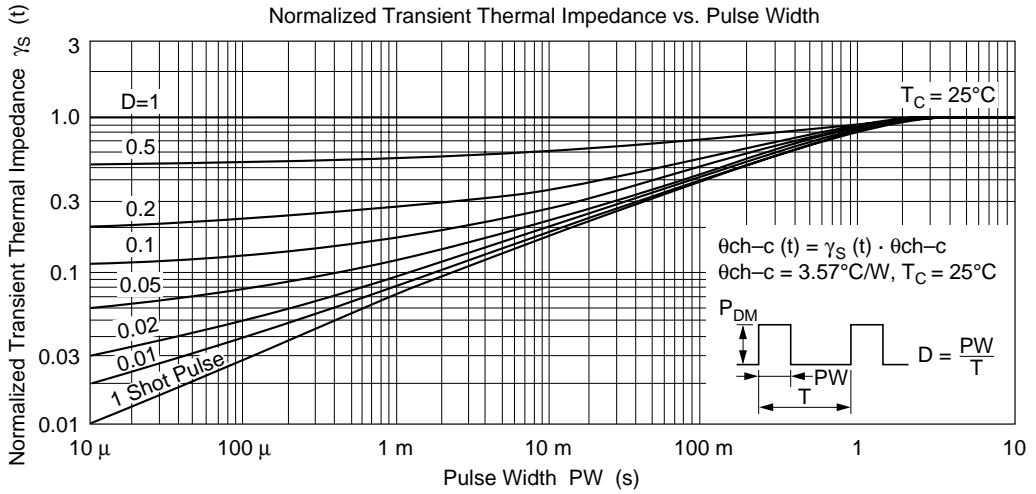
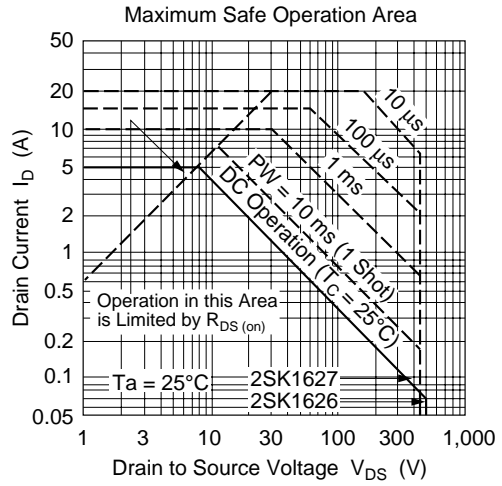
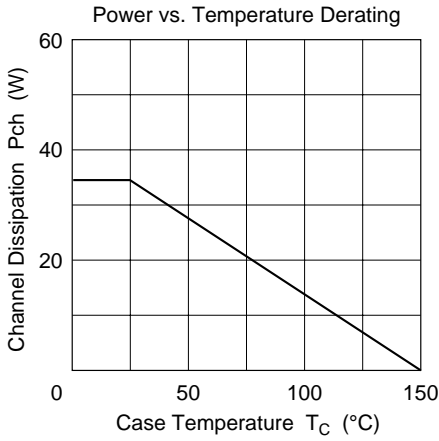
- Note 1. PW 10 μs, duty cycle 1%  
2. Value at  $T_c = 25^\circ\text{C}$

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

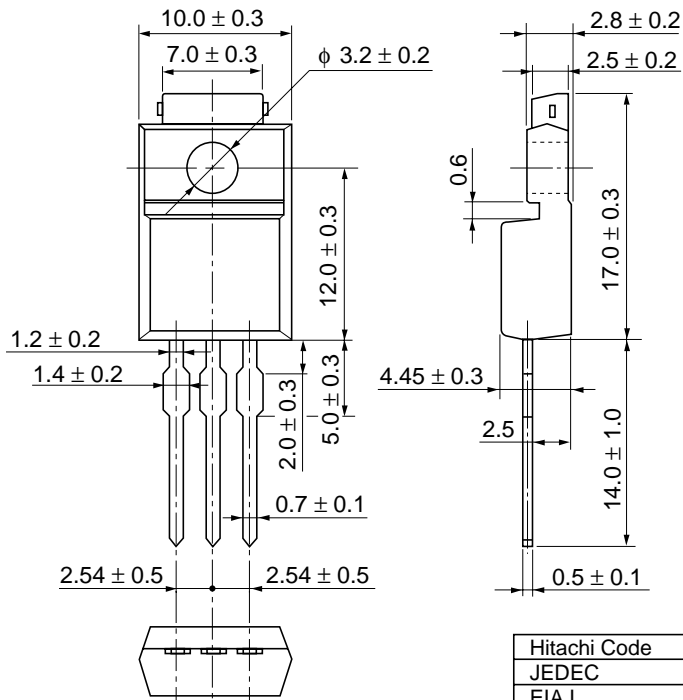
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	<u>2SK1626</u> $V_{(BR)DSS}$	450	—	—	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
	2SK1627	500				
Gate to source breakdown voltage	$V_{(BR)GSS}$	±30	—	—	V	$I_G = \pm 100 \text{ } \mu\text{A}, V_{DS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	±10	μA	$V_{GS} = \pm 25 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	<u>2SK1626</u> $I_{DSS}$	—	—	250	μA	$V_{DS} = 360 \text{ V}, V_{GS} = 0$
	2SK1627					$V_{DS} = 400 \text{ V}, V_{GS} = 0$
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	<u>2SK1626</u> $R_{DS(on)}$	—	1.0	1.4		$I_D = 2.5 \text{ A}, V_{GS} = 10 \text{ V}^{*1}$
	2SK1627	—	1.2	1.5		
Forward transfer admittance	$ y_{fs} $	2.5	4.0	—	S	$I_D = 2.5 \text{ A}, V_{DS} = 10 \text{ V}^{*1}$
Input capacitance	$C_{iss}$	—	640	—	pF	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$
Output capacitance	$C_{oss}$	—	160	—	pF	$f = 1 \text{ MHz}$
Reverse transfer capacitance	$C_{rss}$	—	20	—	pF	
Turn-on delay time	$t_{d(on)}$	—	10	—	ns	$I_D = 2.5 \text{ A}, V_{GS} = 10 \text{ V},$
Rise time	$t_r$	—	25	—	ns	$R_L = 12$
Turn-off delay time	$t_{d(off)}$	—	50	—	ns	
Fall time	$t_f$	—	30	—	ns	
Body to drain diode forward voltage	$V_{DF}$	—	0.95	—	V	$I_F = 5 \text{ A}, V_{GS} = 0$
Body to drain diode reverse recovery time	$t_{rr}$	—	300	—	ns	$I_F = 5 \text{ A}, V_{GS} = 0,$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

Note 1. Pulse test

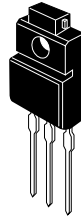
See characteristic curves of 2SK1155, 2SK1156.



Package Dimensions



As of January, 2001  
Unit: mm



Hitachi Code	TO-220FM
JEDEC	—
EIAJ	Conforms
Mass (reference value)	1.8 g

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