

# 2SK1626, 2SK1627

## Silicon N-Channel MOS FET

### 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

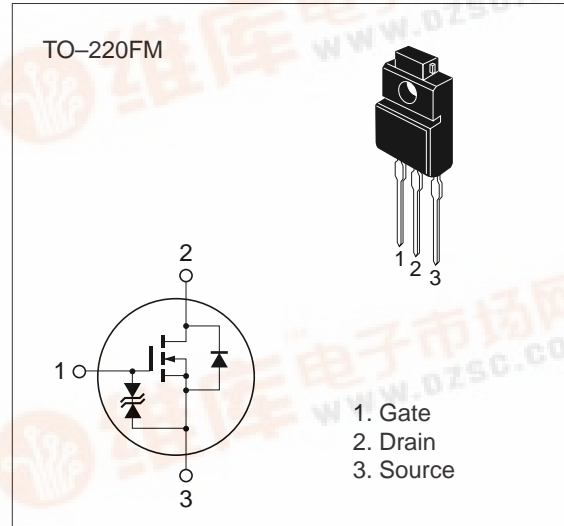


Table 1 Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit	
Drain to source voltage	2SK1626	V <sub>DSS</sub>	450	V
	2SK1627		500	
Gate to source voltage	V <sub>GSS</sub>	±30	V	
Drain current	I <sub>D</sub>	5	A	
Drain peak current	I <sub>D(pulse)</sub> *	20	A	
Body to drain diode reverse drain current	I <sub>DR</sub>	5	A	
Channel dissipation	P <sub>ch</sub> **	35	W	
Channel temperature	T <sub>ch</sub>	150	°C	
Storage temperature	T <sub>stg</sub>	-55 to +125	°C	

\* PW ≤ 10 μs, duty cycle ≤ 1 %

\*\* Value at T<sub>C</sub> = 25 °C

**Table 2 Electrical Characteristics** ( $T_a = 25^\circ\text{C}$ )

Item		Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SK1626	$V_{(BR)DSS}$	450	—	—	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
	2SK1627		500				
Gate to source breakdown voltage		$V_{(BR)GSS}$	$\pm 30$	—	—	V	$I_G = \pm 100 \mu\text{A}, V_{DS} = 0$
Gate to source leak current		$I_{GSS}$	—	—	$\pm 10$	$\mu\text{A}$	$V_{GS} = \pm 25 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	2SK1626	$I_{DSS}$	—	—	250	$\mu\text{A}$	$V_{DS} = 360 \text{ V}, V_{GS} = 0$
	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	2SK1626	$R_{DS(on)}$	—	1.0	1.4	$\Omega$	$I_D = 2.5 \text{ A}, V_{GS} = 10 \text{ V}^*$
	2SK1627		—	1.2	1.5		
Forward transfer admittance		$ y_{fs} $	2.5	4.0	—	S	$I_D = 2.5 \text{ A}, V_{DS} = 10 \text{ V}^*$
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	$R_L = 12 \Omega$
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	$I_F = 5 \text{ A}, V_{GS} = 0,$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

\* Pulse Test

See characteristic curves of 2SK1155, 2SK1156.

