

2SK1566, 2SK1567

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

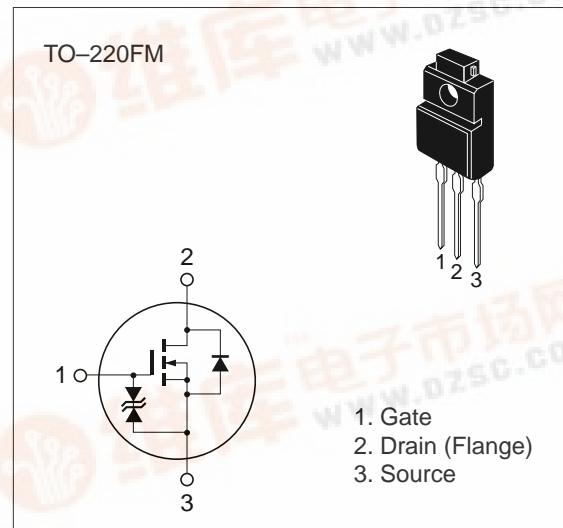


Table 1 Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Drain to source voltage 2SK1566	V_{DSS}	450	V
		500	
Gate to source voltage	V_{GSS}	± 30	V
Drain current	I_D	7	A
Drain peak current	$I_{D(\text{pulse})}^*$	28	A
Body to drain diode reverse drain current	I_{DR}	7	A
Channel dissipation	P_{ch}^{**}	35	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* PW $\leq 10 \mu\text{s}$, duty cycle $\leq 1\%$

** Value at $T_C = 25^\circ\text{C}$

2SK1566, 2SK1567

Table 2 Electrical Characteristics (Ta = 25°C)

Item		Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SK1566	V _{(BR)DSS}	450	—	—	V	I _D = 10 mA, V _{GS} = 0
	2SK1567		500				
Gate to source breakdown voltage		V _{(BR)GSS}	±30	—	—	V	I _G = ±100 µA, V _{DS} = 0
Gate to source leak current		I _{GSS}	—	—	±10	µA	V _{GS} = ±25 V, V _{DS} = 0
Zero gate voltage drain current	2SK1566	I _{DSS}	—	—	250	µA	V _{DS} = 360 V, V _{GS} = 0
	2SK1567						V _{DS} = 400 V, V _{GS} = 0
Gate to source cutoff voltage		V _{GS(off)}	2.0	—	3.0	V	I _D = 1 mA, V _{DS} = 10 V
Static Drain to source on state resistance	2SK1566	R _{DS(on)}	—	0.6	0.8	Ω	I _D = 4 A, V _{GS} = 10 V *
	2SK1567		—	0.7	0.9		
Forward transfer admittance		y _{fs}	4.0	6.5	—	S	I _D = 4 A, V _{DS} = 10 V *
Input capacitance		C _{iss}	—	1050	—	pF	V _{DS} = 10 V, V _{GS} = 0,
Output capacitance		C _{oss}	—	280	—	pF	f = 1 MHz
Reverse transfer capacitance		C _{rss}	—	40	—	pF	
Turn-on delay time		t _{d(on)}	—	15	—	ns	I _D = 4 A, V _{GS} = 10 V,
Rise time		t _r	—	55	—	ns	R _L = 7.5 Ω
Turn-off delay time		t _{d(off)}	—	95	—	ns	
Fall time		t _f	—	40	—	ns	
Body to drain diode forward voltage		V _{DF}	—	0.95	—	V	I _F = 7 A, V _{GS} = 0
Body to drain diode reverse recovery time		t _{rr}	—	320	—	ns	I _F = 7 A, V _{GS} = 0, di _F /dt = 100 A/µs

* Pulse Test

See characteristic curves of 2SK1157, 2SK1158.

