

2SK2114, 2SK2115

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

Table 1 Ordering Information

Type No.	V _{DSS}
2SK2114	450 V
2SK2115	500 V

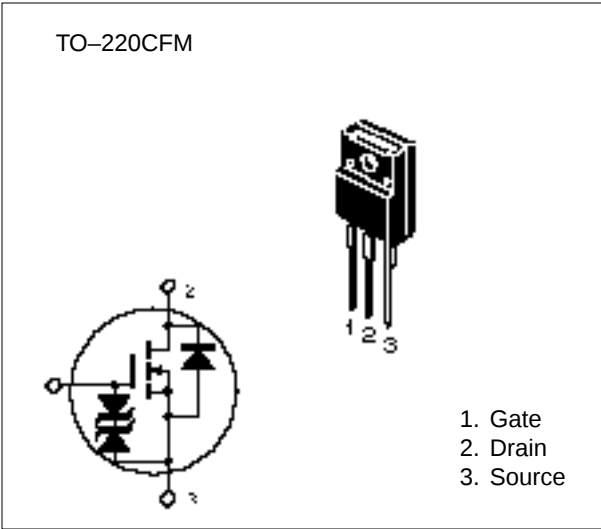


Table 2 Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Ratings	Unit
Drain to source voltage	2SK2114	V _{DSS}	450	V
	2SK2115	V _{DSS}	500	
Gate to source voltage		V _{GSS}	±30	V
Drain current		I _D	5	A
Drain peak current		I _{D(pulse)} *	20	A
Body-drain diode reverse drain current		I _{DR}	5	A
Channel dissipation		P _{ch} **	35	W
Channel temperature		T _{ch}	150	°C
Storage temperature		T _{stg}	−55 to +150	°C

* PW ≤ 10 μs, duty cycle ≤ 1 %

** Value at T_c = 25 °C

Table 3 Electrical Characteristics (Ta = 25°C)

Item		Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SK2114	$V_{(BR)DSS}$	450	—	—	V	$I_D = 10 \text{ mA}$, $V_{GS} = 0$
	2SK2115		500	—	—	—	
Gate to source breakdown voltage		$V_{(BR)GSS}$	± 30	—	—	V	$I_G = \pm 100 \mu\text{A}$, $V_{DS} = 0$
Gate to source leak current		I_{GSS}	—	—	± 10	μA	$V_{GS} = \pm 25 \text{ V}$, $V_{DS} = 0$
Zero gate voltage drain current	2SK2114	I_{DSS}	—	—	250	μA	$V_{DS} = 360 \text{ V}$, $V_{GS} = 0$
	2SK2115		—	—	—	—	$V_{DS} = 400 \text{ V}$, $V_{GS} = 0$
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	2SK2114	$R_{DS(on)}$	—	1.0	1.4	Ω	$I_D = 2.5 \text{ A}$, $V_{GS} = 10 \text{ V}^*$
	2SK2115		—	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	$V_{DS} = 10 \text{ V}$
Output capacitance		C_{oss}	—	160	—	pF	$V_{GS} = 0$
Reverse transfer capacitance		C_{rss}	—	20	—	pF	$f = 1 \text{ MHz}$
Turn-on delay time		$t_{d(on)}$	—	10	—	ns	$I_D = 2.5 \text{ A}$
Rise time		t_r	—	25	—	ns	$V_{GS} = 10 \text{ V}$
Turn-off delay time		$t_{d(off)}$	—	50	—	ns	$R_L = 12 \Omega$
Fall time		t_f	—	30	—	ns	
Body-drain diode forward voltage		V_{DF}	—	0.95	—	V	$I_F = 5 \text{ A}$, $V_{GS} = 0$
Body-drain diode reverse recovery time		t_{rr}	—	300	—	ns	$I_F = 5 \text{ A}$, $V_{GS} = 0$, $diF / dt = 100 \text{ A} / \mu\text{s}$

* Pulse Test

■ See characteristics curve of 2SK1155, 2SK1156.

