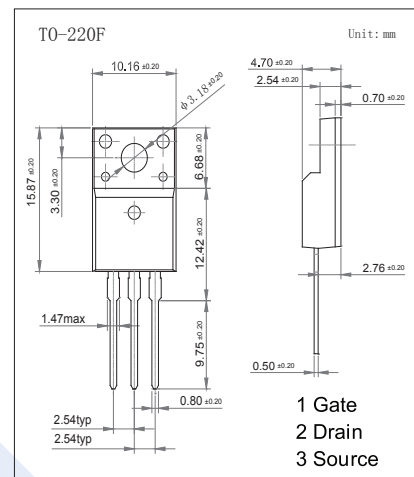


N-Channel MOSFET

2SK2701A

■ Features

- $V_{DS}(V) = 450\text{ V}$
- $I_D = 7.0\text{ A}$ ($V_{GS} = 10\text{ V}$)
- $R_{DS(ON)} < 1.1\Omega$ ($V_{GS} = 10\text{ V}$)

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	450	V
Gate-Source Voltage	V_{GS}	± 30	
Continuous Drain Current	I_D	7	A
Pulsed Drain Current ^{*1}	I_{DM}	28	
Avalanche Energy ^{*2}	E_{AS}	130	mJ
Avalanche Current	I_{AS}	7	A
Power Dissipation ($T_c=25^\circ\text{C}$)	P_D	35	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

*1: $P_W \leq 100\mu\text{s}$, duty cycle $\leq 1\%$

*2: $V_{DD} = 30\text{ V}$, $L = 5\text{ mH}$, $I_L = 7\text{ A}$, unclamped, $R_G = 50\Omega$.

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=100\mu\text{A}$, $V_{GS}=0\text{ V}$	450			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=450\text{ V}$, $V_{GS}=0\text{ V}$			100	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0\text{ V}$, $V_{GS}=\pm 30\text{ V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=10\text{ V}$, $I_D=1\text{ mA}$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{ V}$, $I_D=3.5\text{ A}$			1.1	Ω
Forward Transconductance	g_{FS}	$V_{DS}=20\text{ V}$, $I_D=3.5\text{ A}$	3.5			S
Input Capacitance	C_{iss}	$V_{GS}=0\text{ V}$, $V_{DS}=10\text{ V}$, $f=1\text{ MHz}$		720		pF
Output Capacitance	C_{oss}			150		
Reverse Transfer Capacitance	C_{rss}			65		
Turn-On DelayTime	$t_{d(on)}$	$I_D = 3.5\text{ A}$, $V_{DD} = 200\text{ V}$, $R_L = 57\Omega$, $V_{GS} = 10\text{ V}$,		25		ns
Turn-On Rise Time	t_r			40		
Turn-Off DelayTime	$t_{d(off)}$			70		
Turn-Off Fall Time	t_f			50		
Diode Forward Voltage	V_{SD}	$I_S=7\text{ A}$, $V_{GS}=0\text{ V}$			1.5	V

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■ Typical Characteristics

