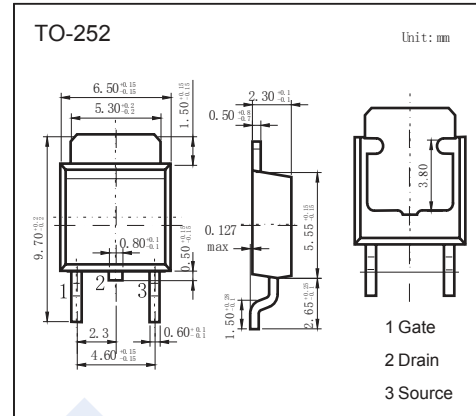
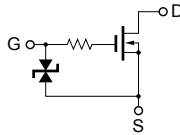


N-Channel MOSFET

2SK3024-Z

■ Features

- $V_{DS} (V) = 60V$
- $I_D = 20 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 50m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 70m\Omega (V_{GS} = 4V)$
- Switching power supply



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	60	V	
Gate-Source Voltage	V_{GS}	± 20		
Continuous Drain Current	I_D	20	A	
Pulsed Drain Current	I_{DM}	40		
Power Dissipation	P_D	$T_a = 25^\circ C$	20	W
		$T_c = 25^\circ C$	1	
Avalanche Energy Capacity (Note.1)	E_{AS}	20	mJ	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	125	$^\circ C/W$	
Thermal Resistance.Junction- to-Case	R_{thJC}	6.25		
Junction Temperature	T_J	150	$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to 150		

Note.1: $L = 0.1mH$, $I_L = 20A$, 1 pulse

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$I_D = 1 mA, V_{GS} = 0V$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 50V, V_{GS} = 0V$			10	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = 10V, I_D = 1mA$	1		2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 10A$			50	$m\Omega$
		$V_{GS} = 4V, I_D = 10A$			70	
Forward Transconductance	g_{FS}	$V_{DS} = 10V, I_D = 10A$	8	12		S
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 10V, f = 1MHz$		330		pF
Output Capacitance	C_{oss}			290		
Reverse Transfer Capacitance	C_{rss}			70		
Turn-On DelayTime	$t_{d(on)}$	$V_{DD} = 30V, I_D = 10A$ $V_{GS} = 10V, R_L = 3\Omega$		20		ns
Turn-On Rise Time	t_r			125		
Turn-Off DelayTime	$t_{d(off)}$			520		
Turn-Off Fall Time	t_f			1480		
Diode Forward Voltage	V_{SD}	$I_S = 20A, V_{GS} = 0V$			1.5	V