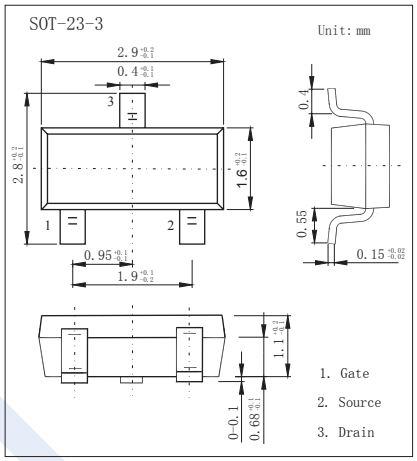
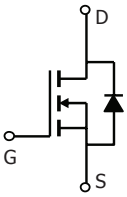
N-Channel MOSFET

2SK3048DS



■ Features

- $V_{DS\ (V)}$ = 60V
- I_D = 3A
- $R_{DS(ON)}$ < 105mΩ @ V_{GS} = 10V
- $R_{DS(ON)}$ < 125mΩ @ V_{GS} = 4.5V



■ Absolute Maximum Ratings (T_A = 25℃ unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	3	A
Pulsed Drain Current (Note 1)	I_{DM}	10	
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient (Note 2)	R_{thJA}	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

Notes:

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t≤10s.

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■ Electrical Characteristics (T_a = 25℃ unless othewise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D = 250 μA, V_{GS} = 0V	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 60 V, V_{GS} = 0 V			1	μA
Gate to Source Leakage Current	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±20 V			±100	nA
Gate to Source Threshold Voltage (Note 3)	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250μA	0.5		2	V
Static Drain-Source On-Resistance (Note 3)	$R_{DS(on)}$	V_{GS} = 10 V, I_D = 3 A			105	mΩ
		V_{GS} = 4.5 V, I_D = 3 A			125	
Forward Transconductance (Note 3)	g_{FS}	V_{DS} = 15 V, I_D = 2 A	1.4			S
Input Capacitance	C_{iss}	V_{DS}=30V,V_{GS}=0V f=1MHz		247		pF
Output Capacitance	C_{oss}			34		
Reverse Transfer Capacitance	C_{rss}			19.5		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V,V_{DD}=30V, I_D=1.5A,R_{GEN}=1Ω		6		ns
Turn-On Rise Time	t_r			15		
Turn-Off DelayTime	$t_{d(off)}$			15		
Turn-Off Fall Time	t_f			10		
Total Gate Charge	Q_g	V_{DS}=30V,V_{GS}=4.5V I_D= 3A		6		nC
Gate Source Charge	Q_{gs}			1		
Gate Drain Charge	Q_{gd}			1.3		
Diode Forward Voltage (Note 3)	V_{SD}	V_{GS} = 0 V, I_S = 3 A			1.2	V

Note 3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤0.5%.

■ Marking

Marking	3055

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■ Typical Characterisitics