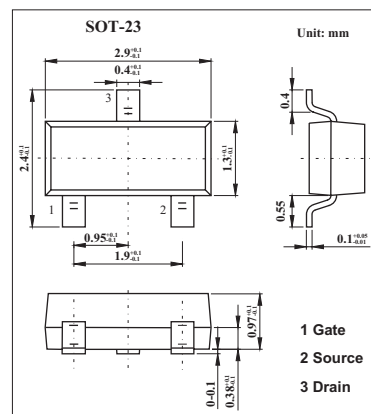
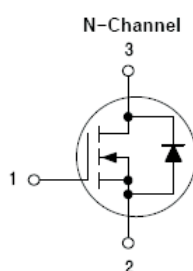


Power MOSFET 200 mA, 50 V

KSS138

■ Features

- N-Channel SOT-23

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

Parameter	Symbol	Rating	Unit
Drain-to-source voltage	V_{DS}	50	V
Gate-to-source voltage - continuous	V_{GS}	± 20	V
Drain Current	I_D	200	mA
continuous @ $T_a = 25^\circ\text{C}$			
pulsed drain current ($t_p \leq 10 \mu\text{s}$)	I_{DM}	800	mA
Total power dissipation @ $T_a = 25^\circ\text{C}$	P_D	225	mW
Operating and storage temperature range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$
Thermal resistance, junction-to-ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Maximum lead temperature for soldering purposes, for 10 seconds	T_L	260	$^\circ\text{C}$

KSS138■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-to-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\text{ }\mu\text{A}$	50			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 25\text{ V}, V_{GS} = 0$			0.1	μA
		$V_{DS} = 50\text{ V}, V_{GS} = 0$			0.5	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0$			± 0.1	μA
Gate-source threshold voltage *	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 1.0\text{ mA}$	0.5		1.5	V
Static drain-to-source on-resistance *	$r_{DS(on)}$	$V_{GS} = 2.75\text{ V}, I_D < 200\text{ mA}, T_A = -40\text{ to }+85^\circ\text{C}$		5.6	10	Ω
		$V_{GS} = 5.0\text{ V}, I_D = 200\text{ mA}$			3.5	Ω
Forward transconductance *	g_{fs}	$V_{DS} = 25\text{ V}, I_D = 200\text{ mA}, f = 1.0\text{ kHz}$	100			mmhos
Input capacitance	C_{iss}	$V_{DS} = 25\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$		40	50	pF
Output capacitance	C_{oss}			12	25	pF
Transfer capacitance	C_{rss}			3.5	5	pF
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 30\text{ V}, I_D = 0.2\text{ A}$			20	ns
Turn-off delay time	$t_{d(off)}$				20	ns

* Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$.

■ Marking

Marking	J1
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