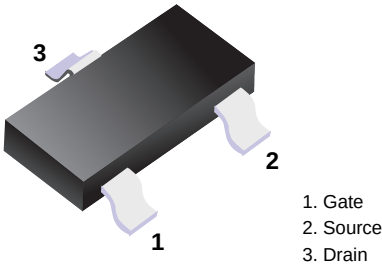


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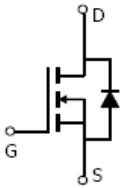
N-Channel Enhancement Mode

Features

- $V_{DS}(V) = 20V$
- $I_D = 4.2A (V_{GS}=4.5V)$
- $R_{DS(ON)} < 50m\Omega (V_{GS} = 4.5V)$
- $R_{DS(ON)} < 63m\Omega (V_{GS} = 2.5V)$
- $R_{DS(ON)} < 87m\Omega (V_{GS} = 1.8V)$



Simplified outline(SOT23-3L)



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

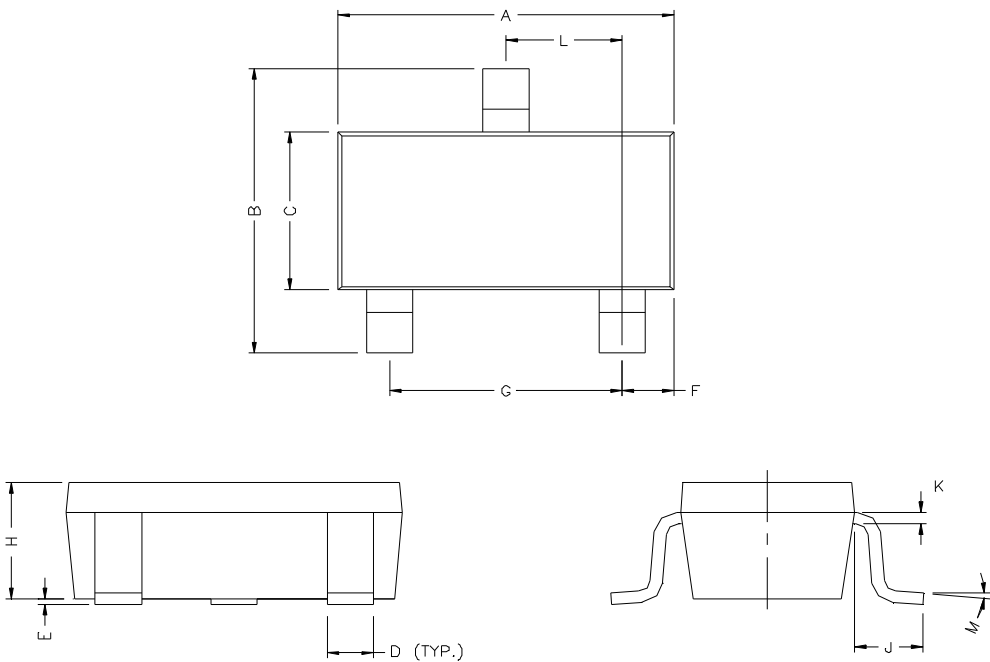
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current *1 $T_A=25^{\circ}C$	I_D	4.2	A
Current *1 $T_A=70^{\circ}C$		3.2	
Pulsed Drain Current *2	I_{DM}	15	
Power Dissipation *1 $T_A=25^{\circ}C$	P_D	1.4	W
$T_A=70^{\circ}C$		0.9	
Thermal Resistance.Junction-to-Ambient *1	R_{thJA}	125	$^{\circ}C/W$
Thermal Resistance.Junction-to-Case	R_{thJC}	80	$^{\circ}C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$

*1The value of R_{thJA} is measured with the device mounted on 1in² FR-4 board with 2oz.
Copper, in a still air environment with $T_A = 25^{\circ}C$

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250μA, V _{GS} =0V	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =16V, V _{GS} =0V			1	μ A
		V _{DS} =16V, V _{GS} =0V, T _J =55°C			5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =250μA	0.4	0.6	1	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =4.5V, I _D =4.2A		41	50	m Ω
		V _{GS} =4.5V, I _D =4.2A T _J =125°C		58	70	
		V _{GS} =2.5V, I _D =3.7A		52	63	
		V _{GS} =1.8V, I _D =3.2A		67	87	
On state drain current	I _{D(ON)}	V _{GS} =4.5V, V _{DS} =5V	15			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =4.2A		11		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-10V, f=1MHz		436		pF
Output Capacitance	C _{oss}			66		pF
Reverse Transfer Capacitance	C _{rss}			44		pF
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		3		Ω
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =-10V, I _D =4.2A		6.2		nC
Gate Source Charge	Q _{gs}			1.6		nC
Gate Drain Charge	Q _{gd}			0.5		nC
Turn-On DelayTime	t _{D(on)}	V _{GS} =4.5V, V _{DS} =10V, R _L =2.7Ω, R _{GEN} =6Ω		5.5		ns
Turn-On Rise Time	t _r			6.3		ns
Turn-Off DelayTime	t _{D(off)}			40		ns
Turn-Off FallTime	t _f			12.7		ns
Body Diode Reverse Recovery Time	t _{rr}	I _F =4A, dI/dt=100A/μ s		12.3		ns
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =4A, dI/dt=100A/μ s		3.5		nC
Maximum Body-Diode Continuous Current	I _S				2	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V		0.76	1	V

■ SOT23-3L



DIMENSIONS (mm are the original dimensions)

UNIT	A	B	C	D	E	F	G	H	K	J	L	M
mm	2.70 3.10	2.65 2.95	1.50 1.70	0.35 0.50	0 0.10	0.45 0.55	1.9	1.00 1.30	0.10 0.20	0.40 -	0.85 1.15	0° 10°