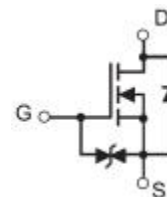
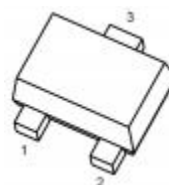


20V/0.8A N-Channel MOSFET
Product Summary

BVDSS	20	V
ID	0.8	A
RDSON@VGS=4.5V	220	mΩ
RDSON@VGS=2.5V	290	mΩ

SOT-523


PIN1: GATE

PIN2: SOURCE

PIN3: DRAIN

Features

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low RDS(on)
- Operated at Low Logic Level Gate Drive
- ESD Protected Up to 2.0KV (HBM)

Applications

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Ordering Information:

Product	Package	Marking	Packing
M3134KA	SOT-523	34K	3000PCS/Reel

Maximum ratings (T_a=25°C unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain - Source Voltage		V _{DS}	20	V
Gate - Source Voltage		V _{GS}	± 12	V
Continuous Drain Current	T _C = 25°C	I _D	0.8	A
Continuous Drain Current	T _A = 75°C		0.4	A
Pulsed Drain Current ¹		I _{DM}	2	A
Power Dissipation ²		P _D	150	mW
Thermal Resistance from Junction to Ambient ²		R _{θJA}	833	°C/W
Junction Temperature		T _J	150	°C
Storage Temperature		T _{STG}	-55~ +150	°C

20V/0.8A N-Channel MOSFET
Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

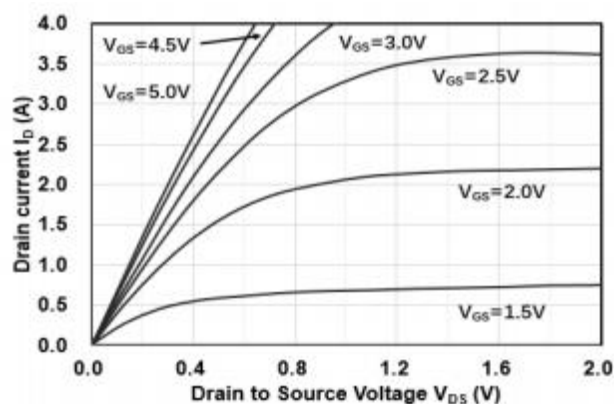
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Gate - Body Leakage Current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 10	μA
Gate Threshold Voltage ³	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.4	0.7	1	V
Drain-source On-resistance ³	$R_{DS(on)}$	$V_{GS}= 4.5V, I_D=0.5A$		220	300	m Ω
		$V_{GS}= 2.5V, I_D=0.45A$		290	400	
		$V_{GS}= 1.8V, I_D=0.4A$		450	700	
Dynamic Characteristics ⁴						
Input Capacitance	C_{iss}	$V_{DS}= 10V, V_{GS}=0V, f=1MHz$		33		pF
Output Capacitance	C_{oss}			20		
Reverse Transfer Capacitance	C_{rss}			10		
Gate Resistance	R_g	$f=1MHz, \text{Open Drain}$		50		Ω
Switching Characteristics ⁴						
Total Gate Charge	Q_g	$V_{GS}=4.5V, V_{DS}=10V, I_D=0.5A$		0.8		nC
Gate- source Charge	Q_{gs}			0.3		
Gate- drain Charge	Q_{gd}			0.15		
Turn-on Delay Time	$t_{d(on)}$	$V_{GS}=4.5V, V_{DD}=10V, R_G=10\Omega, I_D=500mA$		4		ns
Turn-on Rise Time	t_r			18.8		
Turn-off Delay Time	$t_{d(off)}$			10		
Turn-off Fall Time	t_f			23		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	$V_{GS} = 0V, I_S = 0.5A$			1.2	V

Notes :

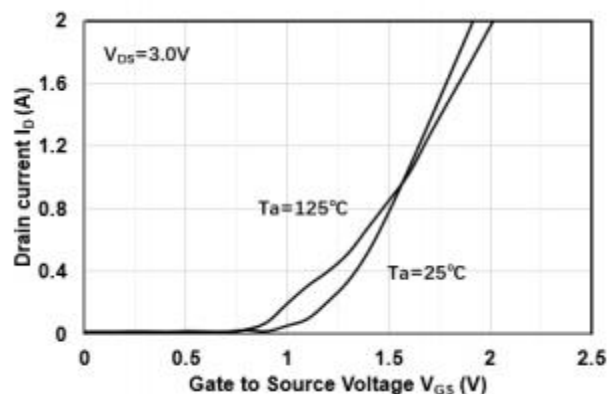
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at $T_a = 25^{\circ}\text{C}$.
3. Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 0.5\%$.
4. These parameters have no way to verify.

20V/0.8A N-Channel MOSFET

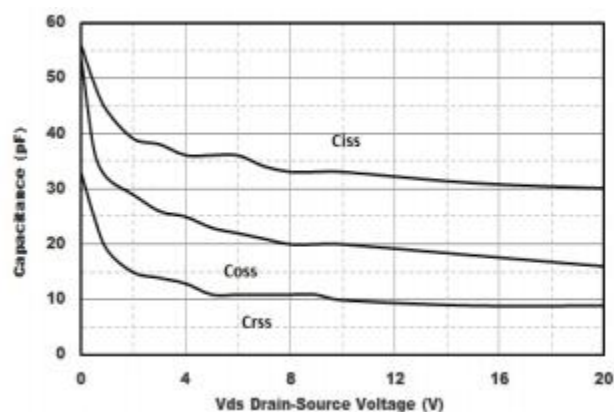
Typical Characteristic



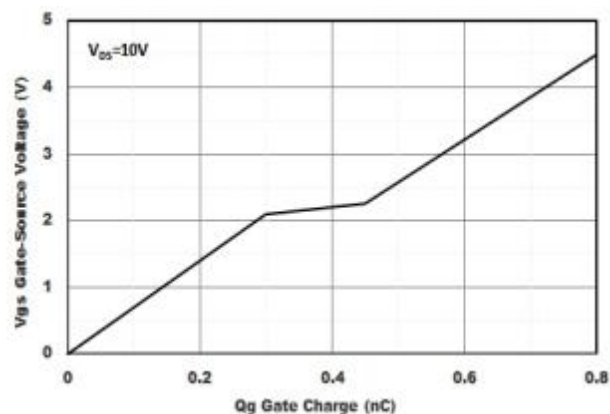
Output Characteristics



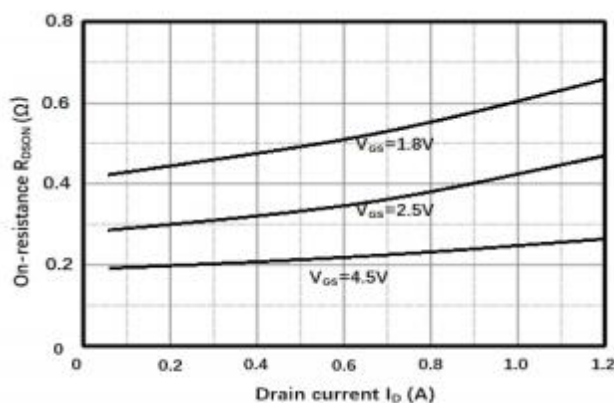
Transfer Characteristics



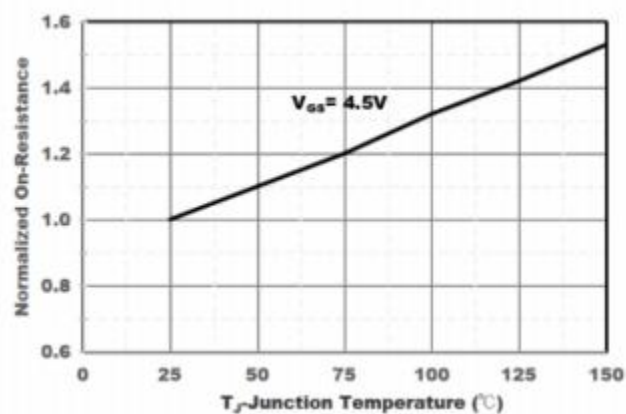
Capacitance Characteristics



Gate Charge

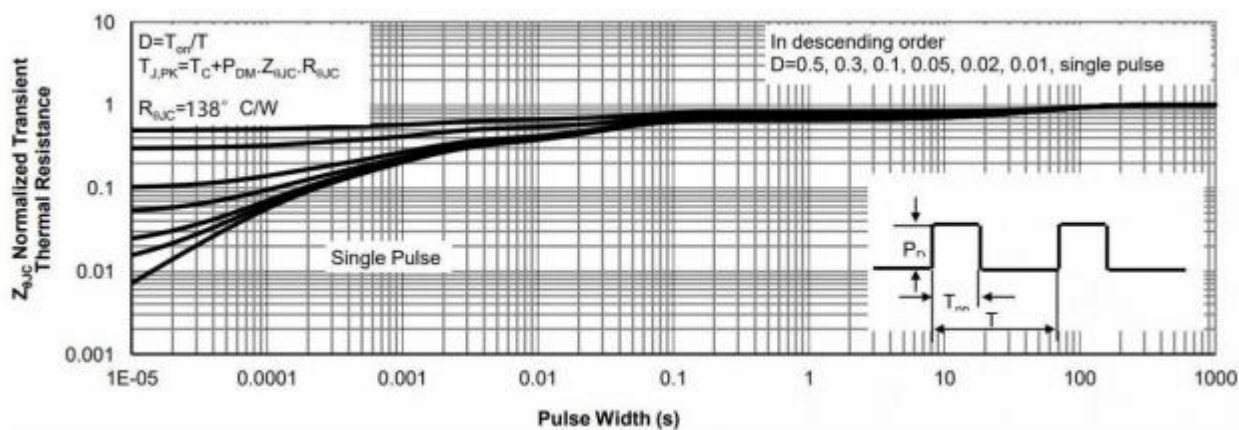
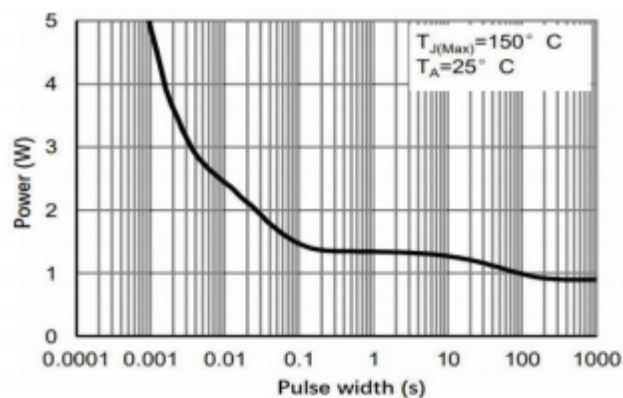
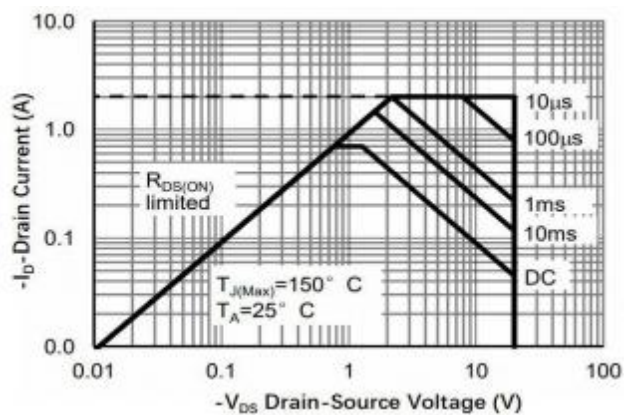


Drain-Source on Resistance



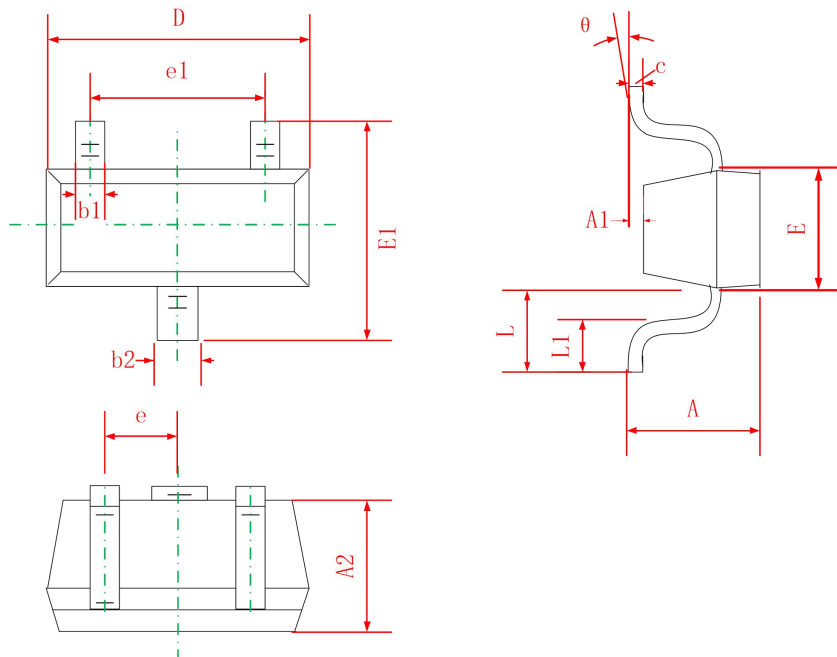
Drain-Source on Resistance

20V/0.8A N-Channel MOSFET



20V/0.8A N-Channel MOSFET

SOT-523 Package Information



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°

SOT-523 Suggested Pad Layout

