

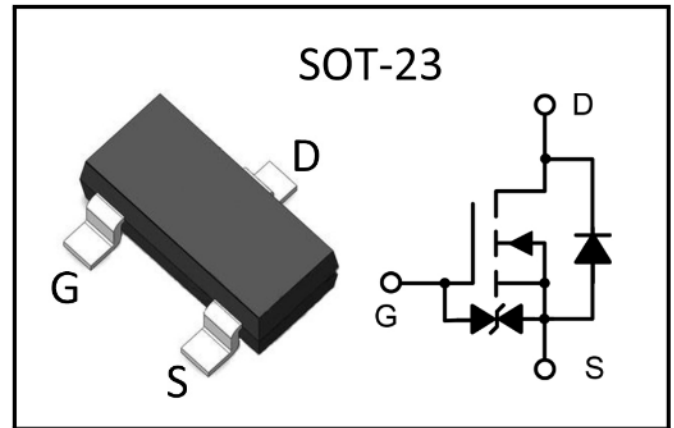
BM3134E

N-Channel MOSFET

Features

- $V_{DS}=20V$
- $I_D=0.5A$
- $R_{DS(ON)}@V_{GS}=4.5V, TYP=220m\Omega$
- $R_{DS(ON)}@V_{GS}=2.5V, TYP=290m\Omega$

Package



General Description

- Lead Free Product is Acquired
- Advanced trench process technology
- High Density Cell Design For Ultra Low On-Resistance
- SOT-23 for Surface Mount Package.

Application

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

Marking



Ordering information

Order code	Package	Marking	Base qty	Delivery mode
BM3134E	SOT-23	34K	3K	Tape and reel



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Absolute Maximum Ratings (@T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{DS}	Drain-Source Voltage	20	V
V _{GS}	Gate-Source Voltage	±12	V
I _D	Continuous Drain Current ⁽¹⁾	0.5	A
I _{DM}	Pulsed Drain Current(t _p =10μs)	1.8	A
P _D	Maximum Power Dissipation ⁽¹⁾	350	mW
T _L	Lead Temperature for Soldering Purposes(1/8" duration for 10s)	150	°C
T _J	Operating Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55 to +150	°C
R _{θJA}	Thermal Resistance from Junction to Ambient ⁽¹⁾	357	°C/W

Electrical Characteristics @T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Parameters						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = 250uA	20	—	—	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 20V, V _{GS} = 0V	—	—	1	uA
I _{GSS}	Gate Body Leakage Current	V _{GS} = ±10V, V _{DS} = 0V	—	—	±10	uA
V _{GS(th)}	Gate Threshold Voltage ⁽²⁾	V _{DS} =V _{GS} , I _D = 250uA	0.35	0.75	1.1	V
R _{DS(on)}	Drain-Source On-State Resistance ⁽²⁾	V _{GS} = 4.5V, I _D = 0.5A	—	220	300	mΩ
		V _{GS} =2.5V, I _D = 0.4A	—	290	400	
g _{fs}	Forward Transconductance ⁽²⁾	V _{DS} = 10V, I _D = 0.5A	—	1.6	—	S
V _{SD}	Diode forward voltage	V _{GS} =0V, I _S = 0.5A	—	—	1.2	V
	Dynamic Parameters ⁽⁴⁾					
C _{iss}	Input Capacitance	V _{GS} =0V,V _{DS} =16V,f=1MHz	—	79	120	pF
C _{oss}	Output Capacitance		—	13	20	
C _{rss}	Reverse Transfer Capacitance		—	9	15	
Switching Parameters ⁽⁴⁾						
t _{d(on)}	Turn-On Delay Time ⁽³⁾	V _{GS} =4.5V,V _{DS} =10V, I _D =500mA,R _{GEN} =10Ω	—	6.7	—	ns
t _r	Turn-On Rise Time ⁽³⁾		—	4.8	—	
t _{d(off)}	Turn-Off Delay Time ⁽³⁾		—	17.3	—	
t _f	Turn-Off Fall Time ⁽³⁾		—	7.4	—	

Notes:(1)Surface mounted on FR4 board using the minimum recommended pad size.

(2)Pulse Test : Pulse Width=300μs, Duty Cycle=2%.

(3)Switching characteristics are independent of operating junction temperatures.

(4)Guaranteed by design, not subject to producing.



Typical Performance Characteristics($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1 :Typical Output Characteristics

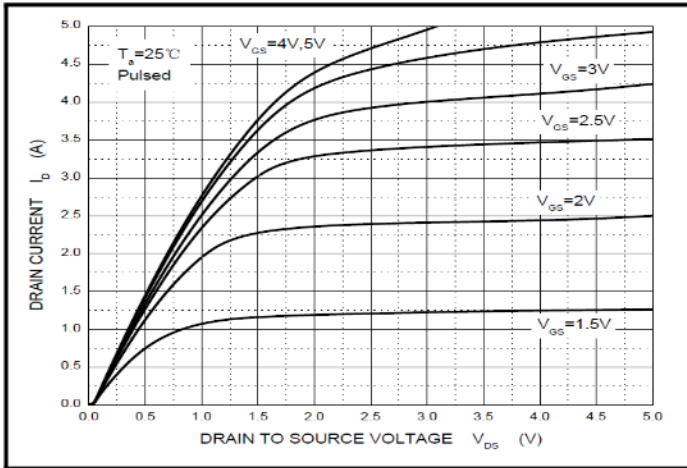


Figure 2 :Transfer Characteristics

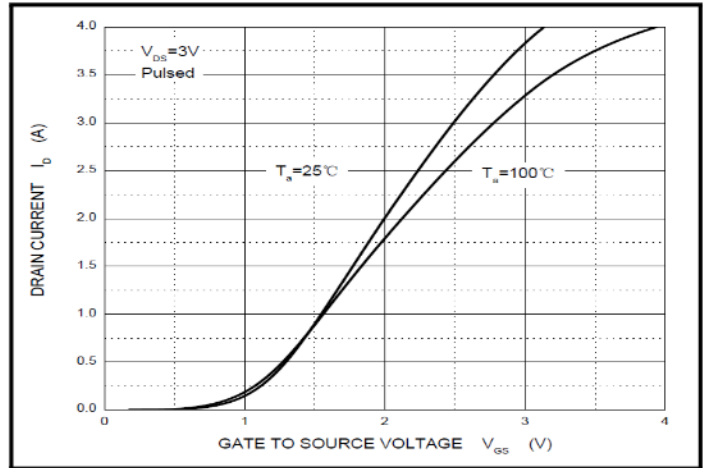


Figure 3 : $R_{DS(ON)}$ vs. I_D

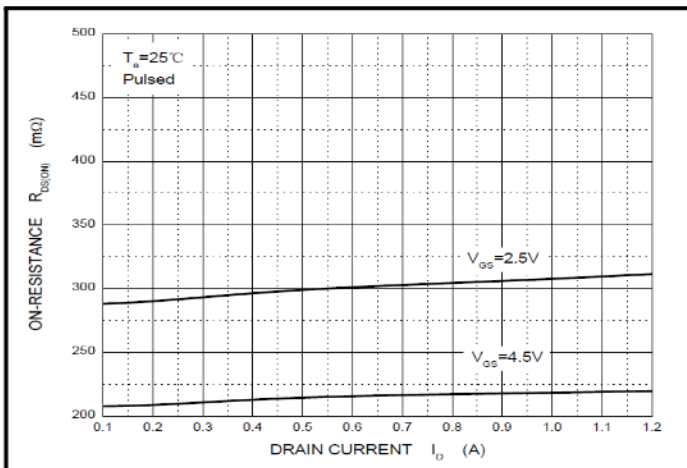


Figure 4 : $R_{DS(ON)}$ vs. V_{GS}

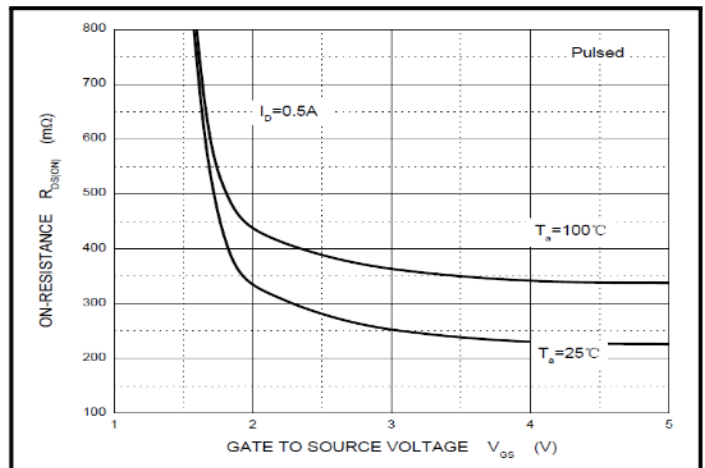


Figure 5 : I_S vs. V_{SD}

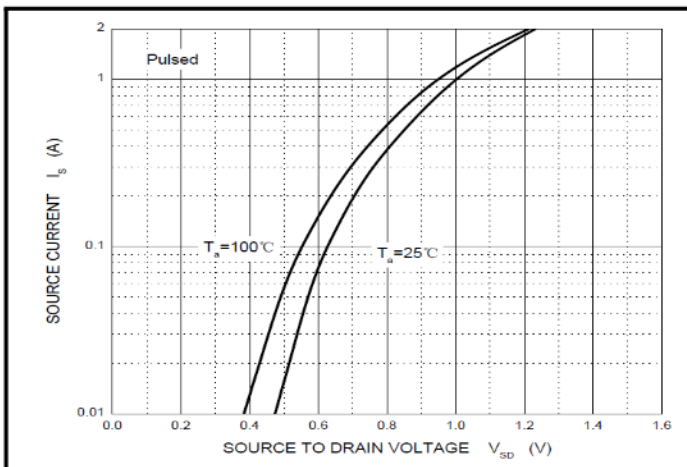
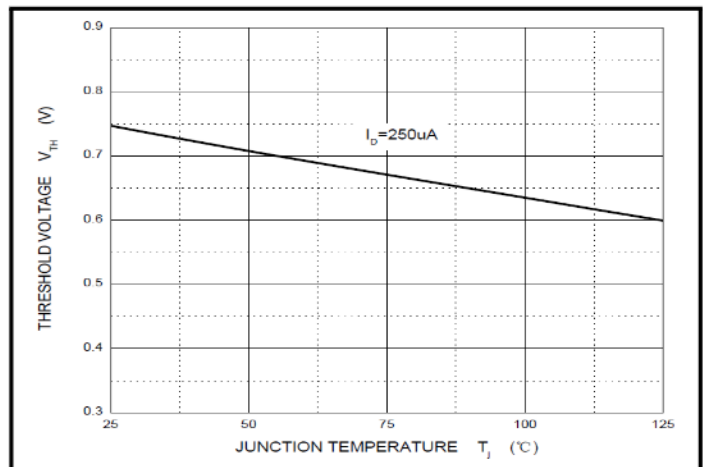


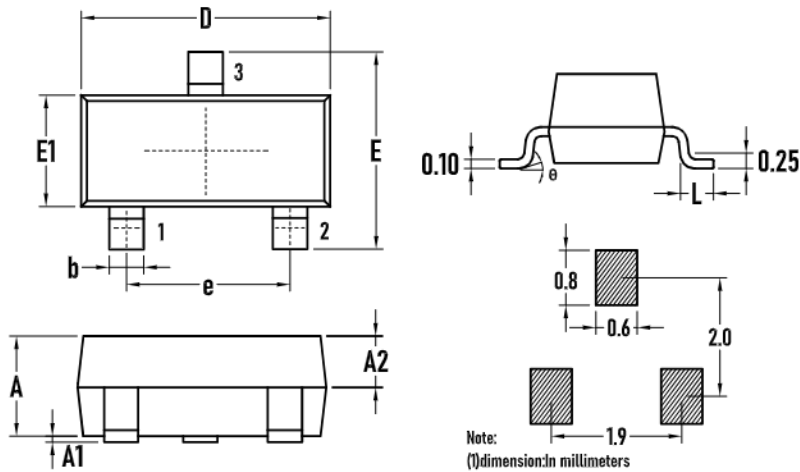
Figure 6 : Threshold Voltage



BM3134E

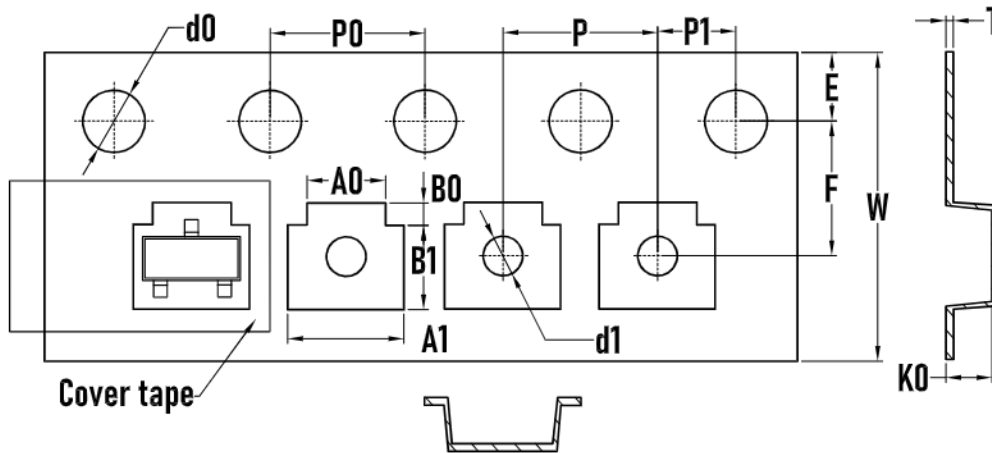
N-Channel MOSFET

Outline Drawing - SOT-23



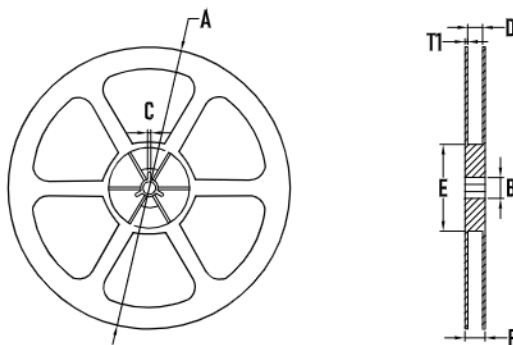
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.90	1.00	1.10
A1	0.01	—	0.10
A2	0.50	0.60	0.70
D	2.80	2.90	3.00
b	0.25	0.35	0.45
E	2.10	2.30	2.50
E1	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.25	0.35	0.45
θ	0	—	8°

Packaging Tape - SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

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