



N-channel MOSFET

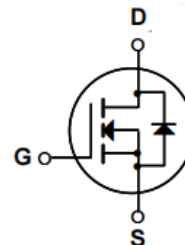
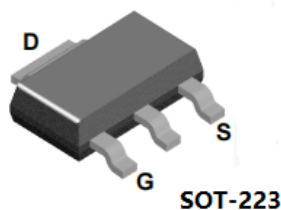
Features

- 100V,3A
- $R_{DS(ON)} = 250m\Omega$ (Typ.) @ $V_{GS} = 10V$
 $R_{DS(ON)} = 260m\Omega$ (Typ.) @ $V_{GS} = 4.5V$
- High Density Cell Design for Ultra Low $R_{DS(ON)}$
- Fully Characterized Avalanche Voltage and Current
- Excellent Package for Good Heat Dissipation

Application

- Networking
- BMS
- Hand-held Electric TOOL
- DC-DC Power Management
- Audio amplifier

Package



Absolute Maximum Ratings (T_C=25°C unless otherwise specified)

Symbol	Parameter		Max.	Units
V _{DSS}	Drain-Source Voltage		100	V
V _{GSS}	Gate-Source Voltage		±20	V
I _D	Continuous Drain Current	T _C = 25°C	3	A
		T _C = 100°C	1.5	A
I _{DM}	Pulsed Drain Current ^{note1}		12	A
P _D	Power Dissipation	T _A = 25°C	2.5	W
R _{θJA}	Thermal Resistance, Junction to Ambient		50	°C/W
T _J , T _{STG}	Operating and Storage Temperature Range		-55 to +150	°C

**Electrical Characteristics** ($T_C=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V,I _D =250μA	100	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =100V, V _{GS} = 0V,	-	-	1.0	μA
I _{GSS}	Gate to Body Leakage Current	V _{DS} =0V,V _{GS} = ±20V	-	-	±100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D =250μA	1.0	1.8	3.0	V
R _{DS(on)}	Static Drain-Source on-Resistance note2	V _{GS} =10V, I _D =2A	-	250	280	mΩ
		V _{GS} =4.5V, I _D =1A	-	260	310	
g _{FS}	Forward Transconductance	V _{DS} =10V, I _D =3A	-	1.1	-	S
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} =50V, V _{GS} = 0V, f = 1.0MHz	-	340	-	pF
C _{oss}	Output Capacitance		-	92	-	pF
C _{rss}	Reverse Transfer Capacitance		-	17	-	pF
Q _g	Total Gate Charge	V _{DS} =50V, I _D =1A, V _{GS} =10V	-	5.2	-	nC
Q _{gs}	Gate-Source Charge		-	1.0	-	nC
Q _{gd}	Gate-Drain(“Miller”) Charge		-	1.4	-	nC
Switching Characteristics						
t _{d(on)}	Turn-on Delay Time	V _{DD} =50V,R _L =39Ω, R _G =1Ω, V _{GS} =10V	-	14	-	ns
t _r	Turn-on Rise Time		-	54	-	ns
t _{d(off)}	Turn-off Delay Time		-	18	-	ns
t _f	Turn-off Fall Time		-	11	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I _s	Maximum Continuous Drain to Source Diode Forward Current		-	-	3	A
I _{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	12	A
V _{SD}	Drain to Source Diode Forward Voltage	V _{GS} = 0V, I _s =1A	-	-	1.2	V

Notes:1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature

2. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

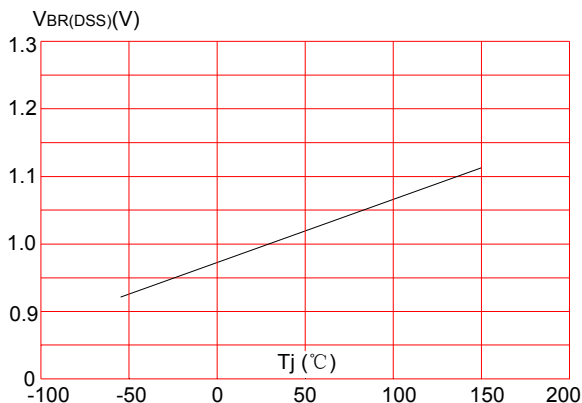


Figure 8: Normalized on Resistance vs. Junction Temperature

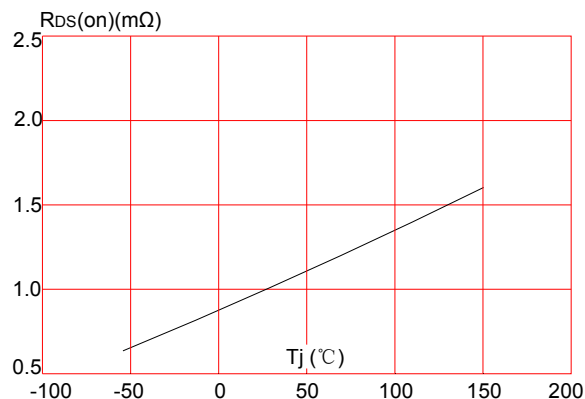


Figure 9: Maximum Safe Operating Area

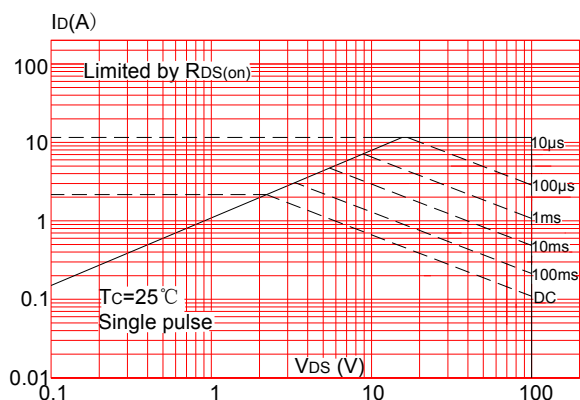


Figure 10: Maximum Continuous Drain Current vs. Case Temperature

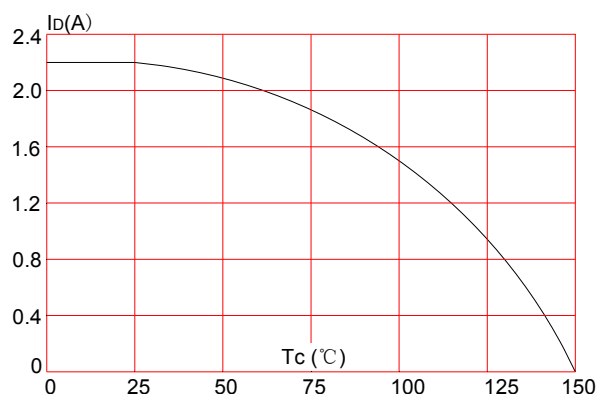
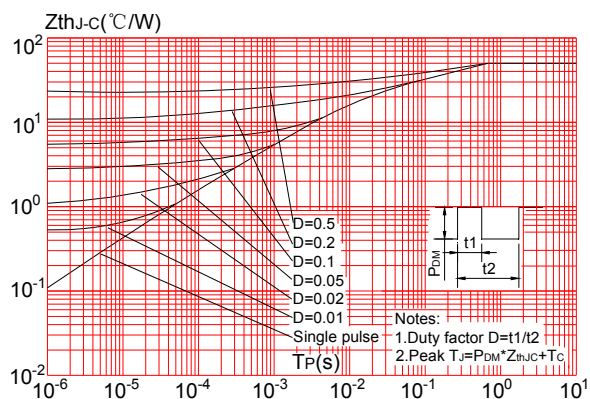
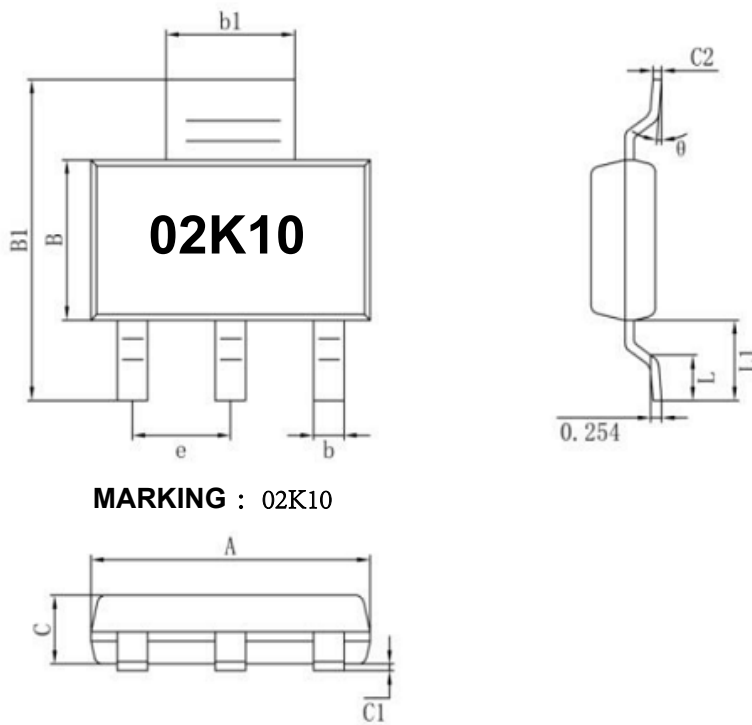


Figure.11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient



Package Mechanical Data



尺寸数据:				单位: mm
标注	Min	Nom	Max	备注
A	6.40	6.50	6.60	
e	2.286TYP			
b	0.66	0.70	0.76	
b1	2.95	3.00	3.05	
B	3.40	3.50	3.60	
B1	6.85	7.00	7.15	
C	1.45	1.55	1.65	
C1	0.03	0.07	0.15	
C2	0.20	0.3	0.35	
L	0.76	0.96	1.16	
L1	1.70	1.75	1.80	
O	0° -8°			