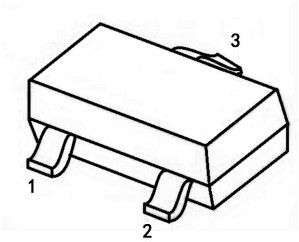
JST3004KT3

30V N-Channel Mosfet

FEATURES

- $R_{DS(ON)} \leq 0.45\Omega$(0.35Ω Typ.) @$V_{GS}$=10V
- $R_{DS(ON)} \leq 0.52\Omega$(0.42Ω Typ.) @$V_{GS}$=4.5V
- $R_{DS(ON)} \leq 0.80\Omega$(0.65Ω Typ.) @$V_{GS}$=2.5V

SOT-323

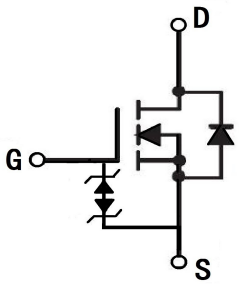


1. GATE
2. SOURCE
3. DRAIN

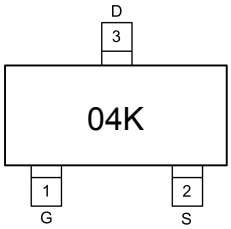
APPLICATIONS

- Relay driver
- High-speed line driver
- Low-side load switch
- Switching circuits

N-CHANNEL MOSFET



MARKING



04K : Device Code

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

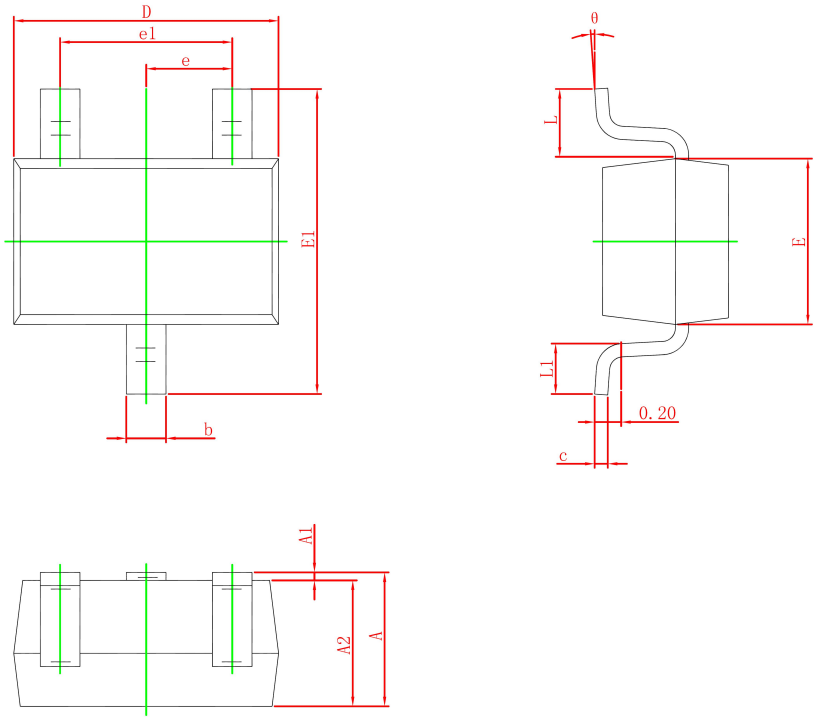
Symbol	Parameter	Max.	Units
V_{DSS}	Drain-Source Voltage	30	V
V_{GSS}	Gate-Source Voltage	±12	V
I_D	Continuous Drain Current	0.7	A
I_{DM}	Pulsed Drain Current	3	A
P_D	Power Dissipation	0.15	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	833	℃/W
T_J	Junction Temperature	150	℃
T_{STG}	Storage Temperature Range	-55 to +150	℃

MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °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	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 24V, V_{GS} = 0V, T_J = 25℃	-	-	0.1	μA
I_{GSS}	Gate to Body Leakage Current	V_{GS} = ±12V, V_{DS} = 0V	-	-	±10	uA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250μA	0.6	1	1.3	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	V_{GS} =10V, I_D =0.5A	-	0.35	0.45	Ω
		V_{GS} =4.5V, I_D =0.4A	-	0.42	0.52	
		V_{GS} =2.5V, I_D =0.3A	-	0.65	0.80	
Dynamic Characteristics note1						
C_{iss}	Input Capacitance	V_{DS} =15V, V_{GS} = 0V, f = 1.0MHz	-	30.3	-	pF
C_{oss}	Output Capacitance		-	5.8	-	pF
C_{rss}	Reverse Transfer Capacitance		-	4.2	-	pF
Switching Characteristics note1						
$t_{d(on)}$	Turn-On Delay Time	V_{GS} = 4.5V, V_{DS}=15V R_G =10Ω, I_D=0.59A	-	-	4	ns
t_r	Turn-On Rise Time		-	-	7	ns
$t_{d(off)}$	Turn-Off Delay Time		-	-	12	ns
t_f	Turn-Off Fall Time		-	-	3	ns
Drain-Source Diode Characteristics and Maximum Ratings						
V_{SD}	Drain to Source Diode Forward Voltage	V_{GS} = 0V, I_S=0.5A T_J = 25℃	0.5	-	1.35	V

Notes: 1. Guaranteed by design, not subject to production

SOT-323 PACKAGE OUTLINE DRAWING



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°