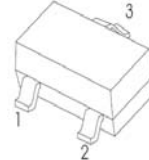


N-Channel 30-V (D-S) MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	2Ω @ VGS(th) 1.2V	100mA
	1.5Ω @ VGS(th) 1.5V	200mA
	2Ω @ VGS(th) 1.8V	200mA
	1.6Ω @ VGS(th) 2.5V	200mA
	1.2Ω @ VGS(th) 4.5V	500mA

SOT-23

1. GATE
2. SOURCE
3. DRAIN


FEATURE

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for Portable equipment
- Easily designed drive circuits
- Easy to parallel

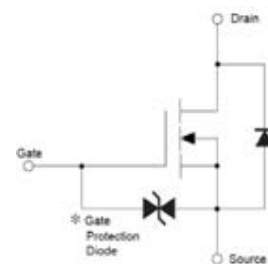
APPLICATION

- Interfacing , Switching

MARKING

3N2K.

Marking: 3N2K.

Equivalent Circuit

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±12	V
I_D	Continuous Drain Current	0.3	A
P_D	Power Dissipation	0.35	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	357	°C /W

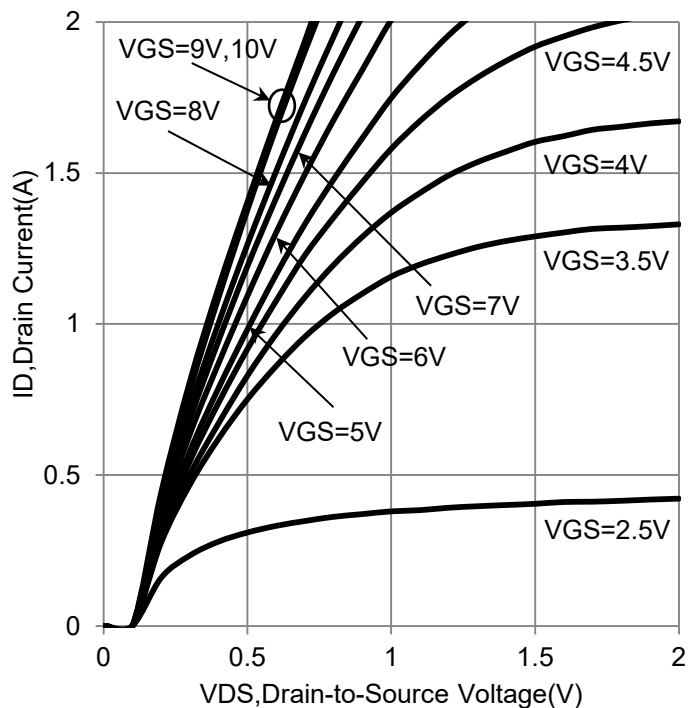
N-Channel 30-V (D-S) MOSFET

T_a=25 °C unless otherwise specified

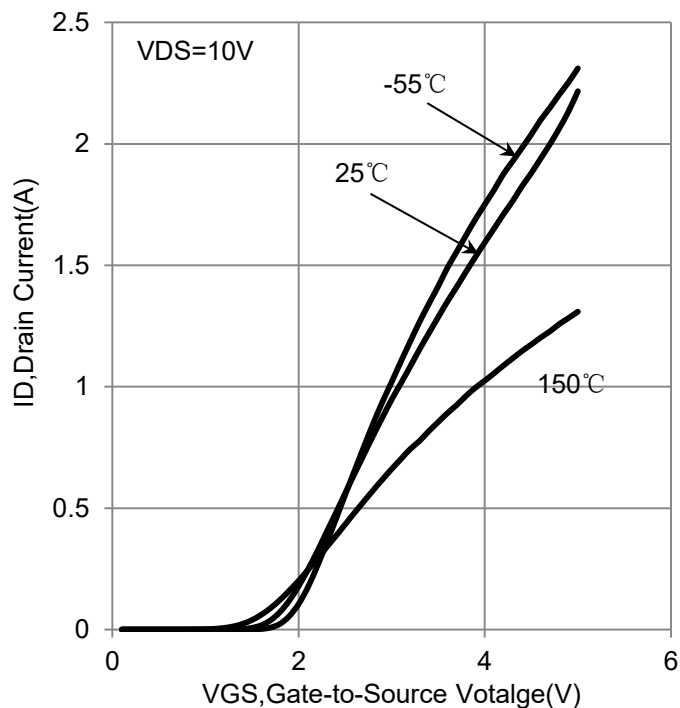
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	V _{DS}	V _{GS} = 0V, I _D = 250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =28V, V _{GS} = 0V			1	μA
Gate –Source leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	0.6		1.0	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 1.2V, I _D =100mA		-	2	Ω
		V _{GS} =1.5V, I _D =200mA		-	1.5	Ω
		V _{GS} =1.8V, I _D =200mA		1.1	2	Ω
		V _{GS} =2.5V, I _D =200mA		0.85	1.6	Ω
		V _{GS} =4.5V, I _D =500mA		0.75	1.2	Ω
Forward Transconductance	g _{FS}	V _{DS} =3V, I _D = 10mA		0.33		mS
Dynamic Characteristics*						
Input Capacitance	C _{iss}	V _{DS} =5V, V _{GS} =0V, f =1MHz		42		pF
Output Capacitance	C _{oss}			12.2		pF
Reverse Transfer Capacitance	C _{rss}			8		pF
Switching Characteristics*						
Turn-On Delay Time	t _{d(on)}	V _{GS} =5V, V _{DD} =5V, I _D =10mA, R _g =10Ω, R _L =500Ω,		15		ns
Rise Time	t _r			35		ns
Turn-Off Delay Time	t _{d(off)}			70		ns
Fall Time	t _f			70		ns

1. Surface-mounted on FR4 board using 1 in sq pad size
(Cu area = 1.27 in sq [2 oz] including traces).
2. Pulse Test: Pulse Width ≤ 100 μs, Duty Cycle ≤ 2.0%.
3. If the IGSS is application in Video signal you must notice the Value .

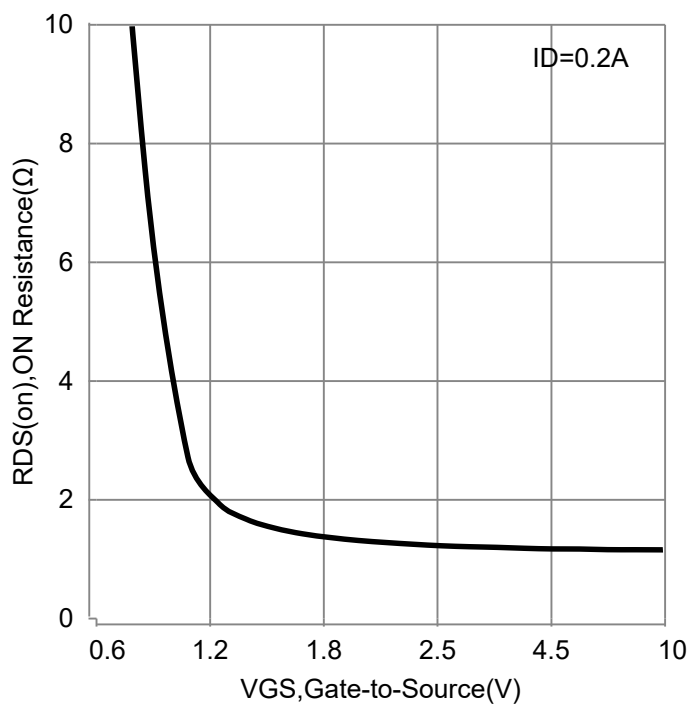
N-Channel 30-V (D-S) MOSFET



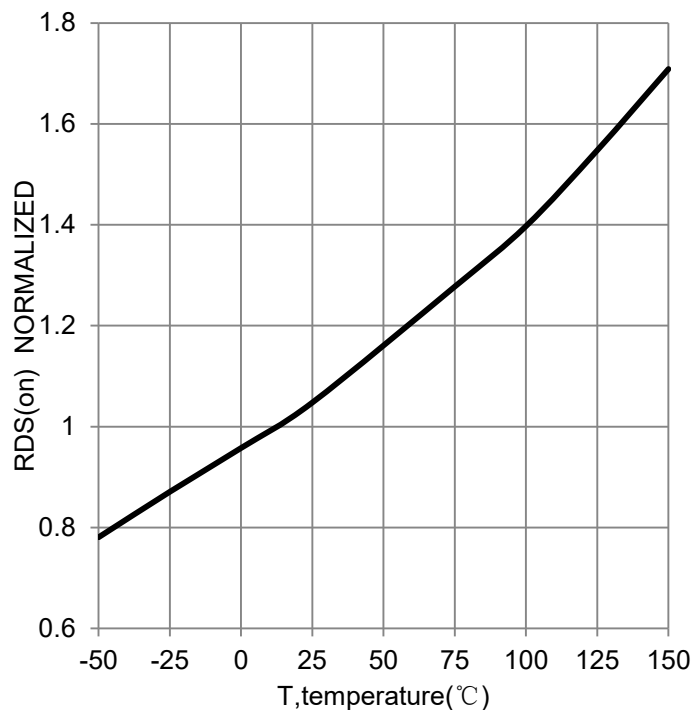
On-Region Characteristics



Transfer Characteristics



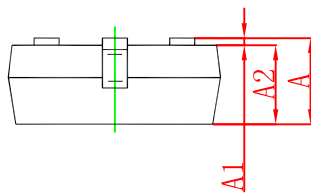
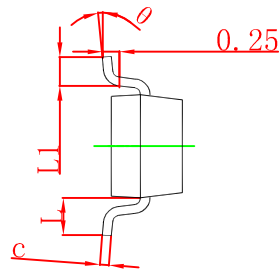
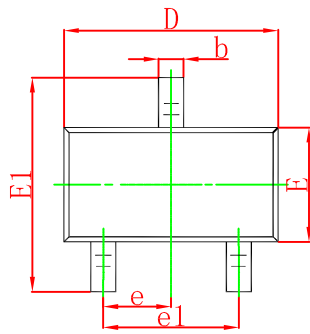
$R_{DS(on)}$ vs. V_{GS}



$R_{DS(on)}$ vs. Temperature

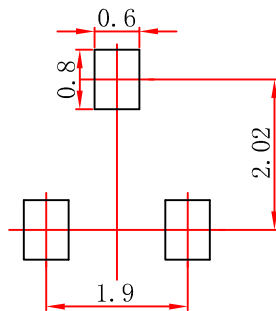
Note: 此曲线仅供参考，如 $V_{GS(th)}$ 应用电压在1.2V以下时需与我司联系且 $V_{th}=1.2\text{V}$ 时 I_D 值最大100mA需注意应用场合

N-Channel 30-V (D-S) MOSFET



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout

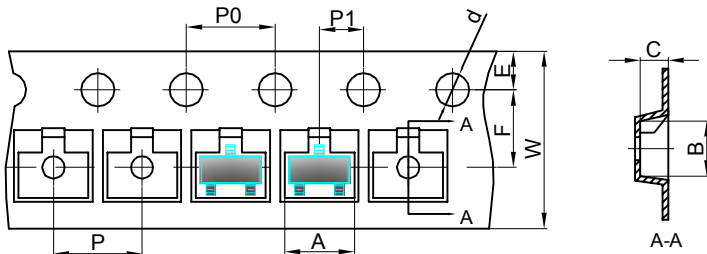


Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

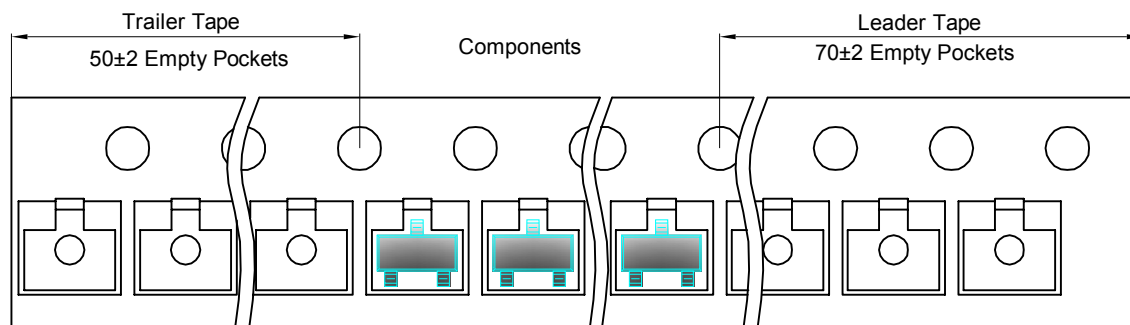
SOT23 Tape and reel

SOT23 Embossed Carrier Tape



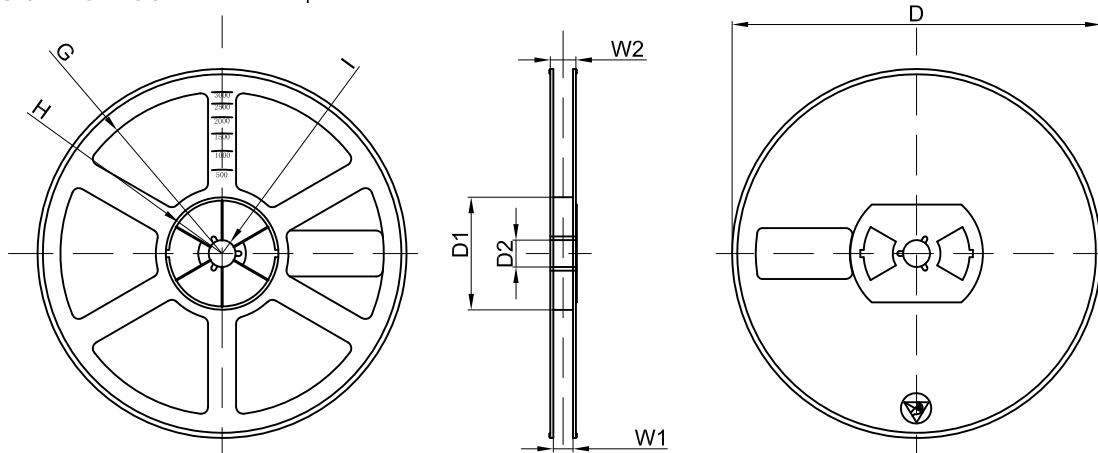
Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT23 Tape Leader and Trailer



SOT23 Reel

3000 pcs



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30