

Description

This 30V 100mA N-Channel MOSFET in a SOT-23 Plastic Package.

Applications

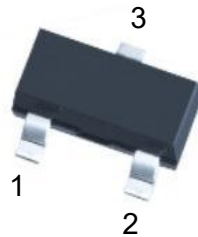
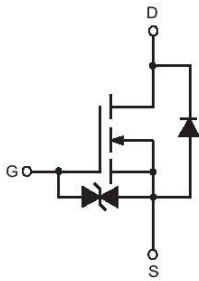
Interfacing, switching

Features

- Low on-resistance
- Fast switching speed.
- Low voltage drive
- Easily designed drive circuits
- Easy to parallel
- ESD protected up to 500V (HBM)
- Halogen-Free Product.

V_{DSS}	$R_{DS(on)}$ Typ	I_D
30V	5Ω	100mA

Equivalent Circuit & Pinning



PIN1: Gate

PIN 2: Source

PIN 3: Drain

Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current – Continuous	I_D	100	mA
Drain Current- Pulsed	I_{DP}^{*1}	400	mA
Reverse Drain Current – Continuous	I_{DR}	100	mA
Reverse Drain Current –Pulsed	I_{DRP}^{*1}	200	mA
Total Power Dissipation	P_D^{*2}	250	mW
Channel Temperature	T_{ch}	150	V
Storage Temperature Range	T_{stg}	-55~150	°C

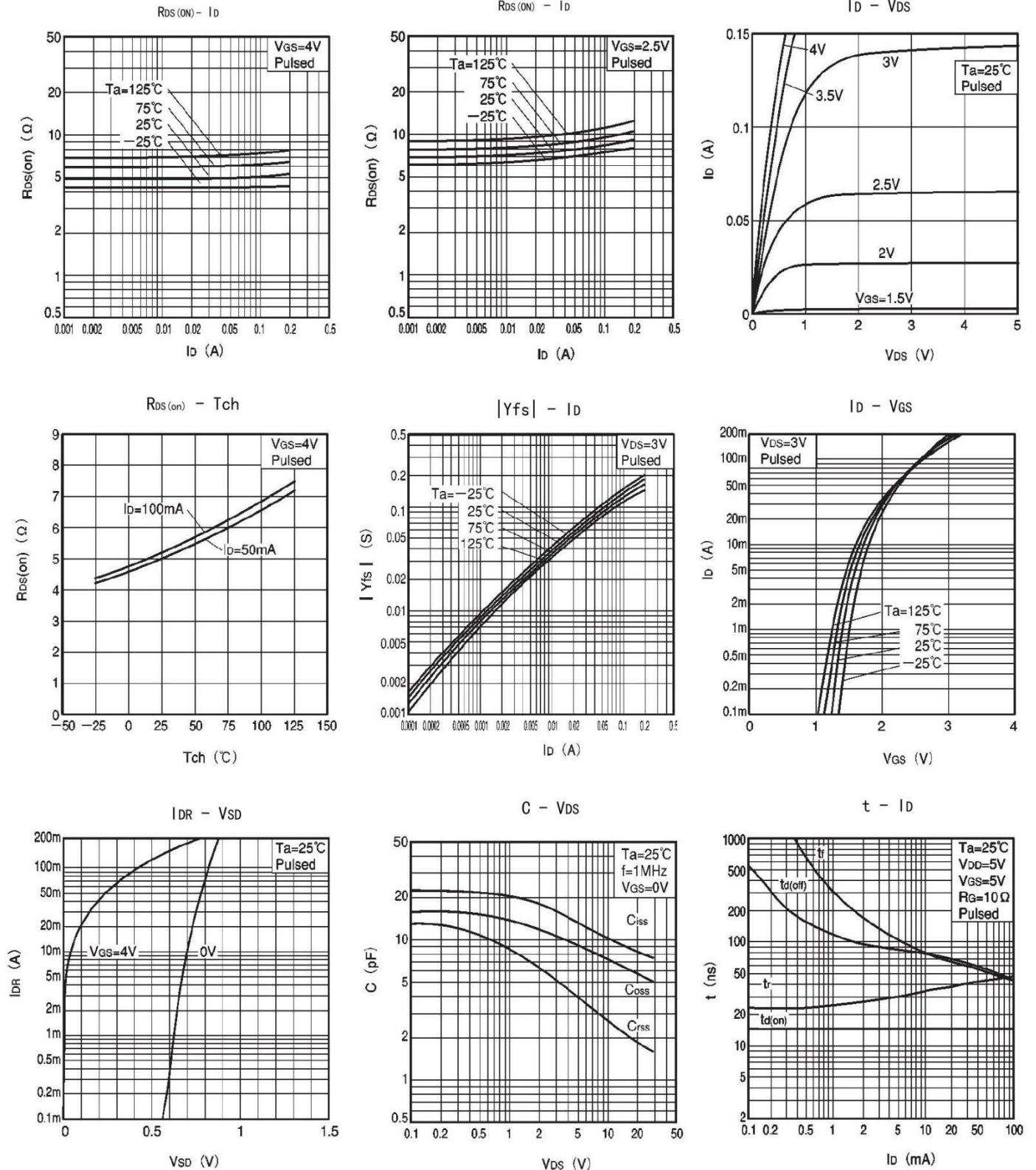
 1: $P_w \leq 10\mu s$, Duty cycle $\leq 1\%$

2: With each pin mounted on the recommended lands

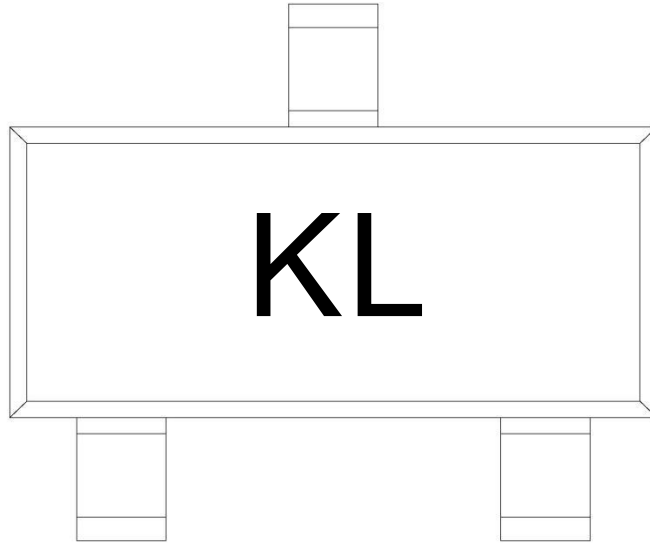
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=10\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=3.0V$ $I_D=100\mu A$	0.8		1.5	V
Static Drain–Source On–Resistance	$R_{DS(on)1}$	$V_{GS}=4.0V$ $I_D=10mA$		5.0	8.0	Ω
	$R_{DS(on)2}$	$V_{0047S}=2.5V$ $I_D=1.0mA$		7.0	13	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1.0	μA
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 1	μA
Forward Transconductance	g_{FS}	$V_{DS}=3V$ $I_D=10mA$	20			mS
Input Capacitance	C_{iss}	$V_{DS}=5.0V$ $V_{GS}=0V$ $f=1.0MHz$		13		pF
Output Capacitance	C_{oss}			9.0		
Reverse Transfer Capacitance	C_{rss}			4.0		
Turn–On Delay Time	$t_{d(on)}$	$I_D=10mA$ $V_{DD}\approx 5.0V$ $V_{GS}=5.0V$ $R_L=500\Omega$ $R_{GS}=10\Omega$		15		ns
Turn–On Rise Time	t_r			35		
Turn–Off Delay Time	$t_{d(off)}$			80		
Turn–Off Fall Time	t_f			80		

Electrical Characteristic Curve



Marking Instructions



Note:

KL: Package Type

Packaging SPEC.

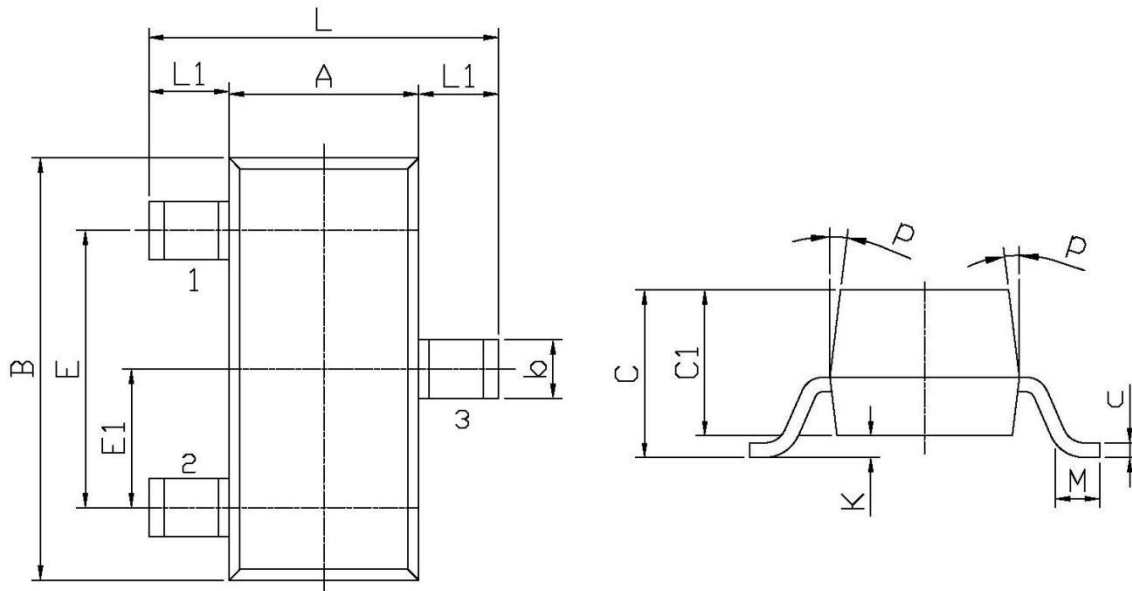
REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

Package Outline Dimensions

SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			