

SOT-23 Plastic-Encapsulate MOSFETS

Features

- $V_{DS}=30V$
- $I_D=0.1A$
- $R_{DS(on)}@V_{GS}=4V < 8\Omega$
- $R_{DS(on)}@V_{GS}=2.5V < 13\Omega$
- Trench Power LV MOSFET technology
- High density cell design for low $R_{DS(ON)}$
- High Speed switching

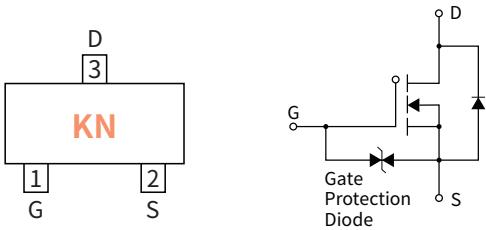
Applications

- Interfacing
- Load switch

Mechanical Data

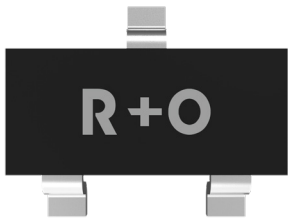
- Case: SOT-23
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Function Diagram



Drain-source Voltage
30 V
Drain Current
0.1 Ampere

SOT-23



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Drain-source Voltage	V_{DS}	V	30
Gate-source Voltage	V_{GS}	V	± 20
Drain Current	I_d	A	0.1
Pulsed Drain Current	I_{DM}	A	0.4
Total Power Dissipation	P_d	mW	200
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	-55 ~+150
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	357

Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

● Static Parameter Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	V	30	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$	μA	—	—	1.0
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	μA	—	—	± 1.0
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=3.0V, I_D=0.1mA$	V	0.8	—	1.5
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.0V, I_D=10mA$	Ω	—	—	8.0
		$V_{GS}=2.5V, I_D=1.0mA$		—	—	13
Forward Transconductance	g_{FS}	$V_{DS}=3.0V, I_D=10mA$	mS	20	—	—

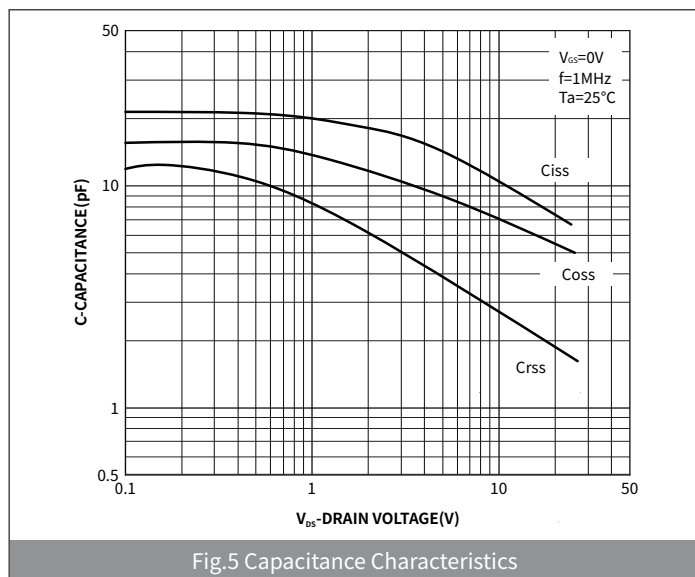
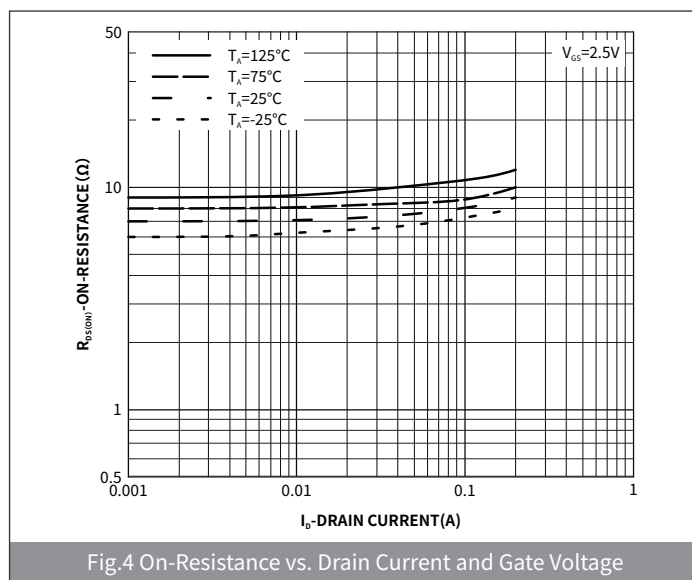
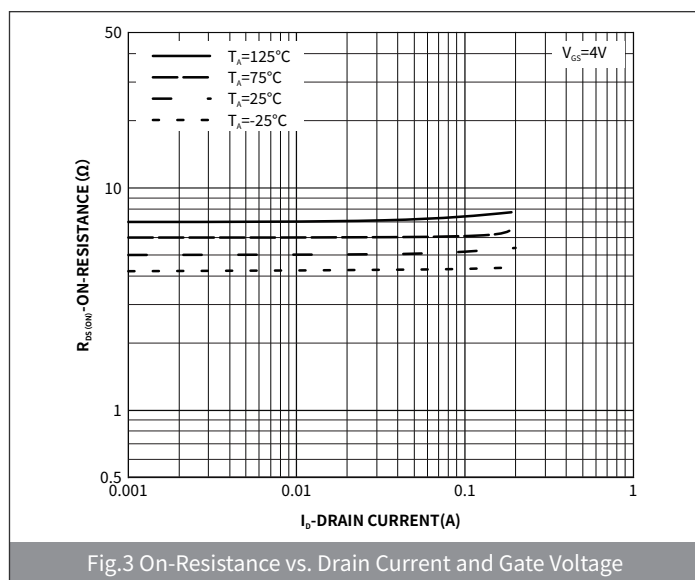
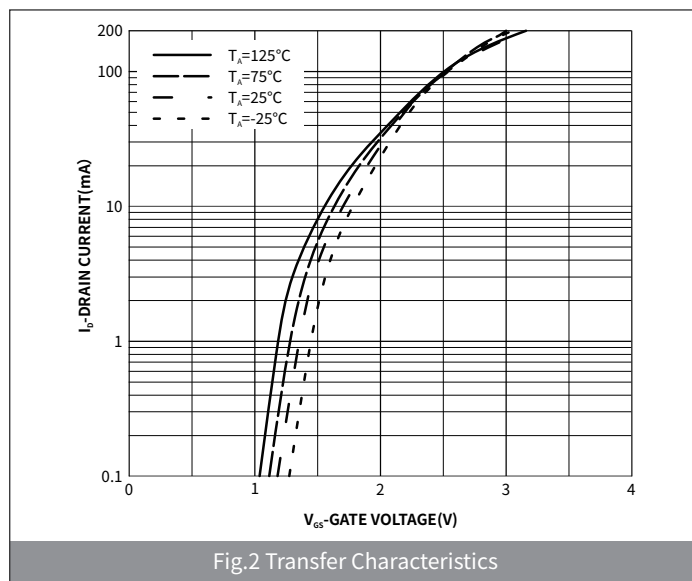
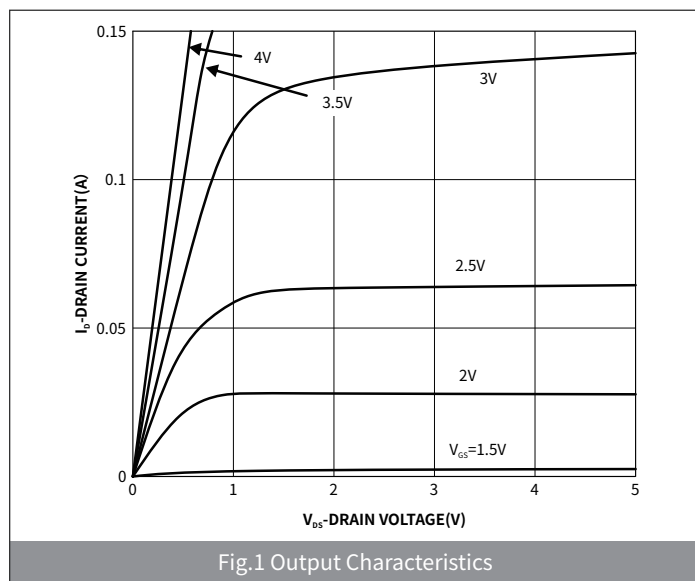
● Dynamic Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=5.0V, V_{GS}=0V, f=1MHz$	pF	—	13	—
Output Capacitance	C_{oss}			—	9.0	—
Reverse Transfer Capacitance	C_{rss}			—	4.0	—

● Switching Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=5.0V, V_{DS}=5.0V, I_D=10mA, R_{GEN}=10\Omega, R_L=500\Omega$	ns	—	15	—
Turn-on Rise Time	t_r			—	35	—
Turn-off Delay Time	$t_{D(off)}$			—	80	—
Turn-off fall Time	t_f			—	80	—

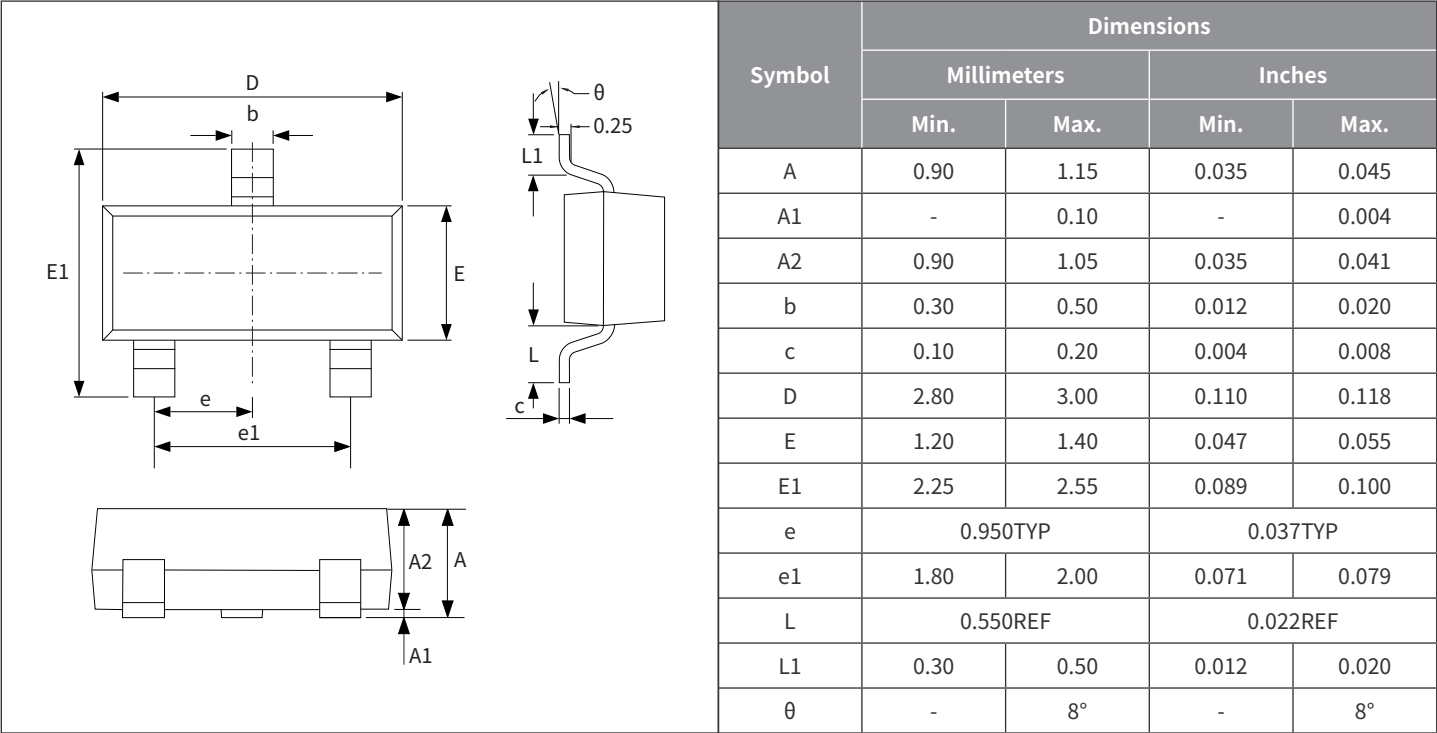
● Ratings And Characteristics Curves ($T_a=25^\circ\text{C}$ Unless otherwise specified)



Ordering Information

Table with 7 columns: PACKAGE, PACKAGE CODE, UNIT WEIGHT(g), REEL(pcs), BOX(pcs), CARTON(pcs), DELIVERY MODE. Row 1: SOT-23, R1, 0.008, 3000, 45000, 180000, 7"

Package Outline Dimensions (SOT-23)



Suggested Pad Layout

