

SOT-23 Plastic-Encapsulate MOSFETS

Features

- $V_{DS} = -60V$
- $I_D = -5A$
- $R_{DS(on)}@V_{GS} = -10V < 132m\Omega$
- $R_{DS(on)}@V_{GS} = -4.5V < 160m\Omega$
- Advanced Trench Technology
- Fast switching speed

Drain-source Voltage
-60 V
Drain Current
-5 Ampere

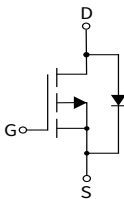
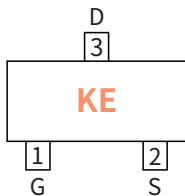
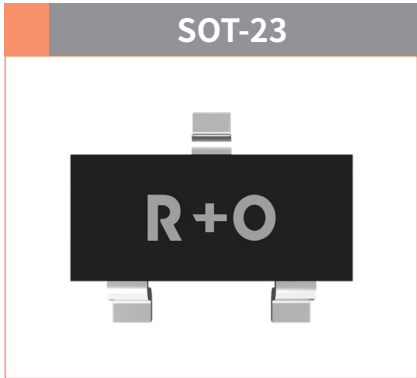
Applications

- Load Switch
- PWM Application
- Power Mangement

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



Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	30000	180000	7"

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

PARAMETER	SYMBOL	UNIT	VALUE
Drain-source Voltage	V_{DS}	V	-60
Gate-source Voltage	V_{GS}	V	± 20
Drain Current	I_D	A	-5
Pulsed Drain Current ⁽¹⁾	I_{DM}	A	-20
Total Power Dissipation	P_D	W	1.39
Thermal Resistance Junction-to-Ambient @ Steady State ⁽²⁾	$R_{\theta JA}$	$^{\circ}C / W$	90
Junction and Storage Temperature Range	T_J, T_{STG}	$^{\circ}C$	-55 ~+150

● 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	-60	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0V$	μA	—	—	-1.0
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	nA	—	—	± 100
Gate Threshold Voltage ⁽³⁾	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	V	-1.1	-1.7	-2.4
Static Drain-Source On-Resistance ⁽³⁾	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-5A$	m Ω	—	110	132
		$V_{GS}=-4.5V, I_D=-4A$		—	133	160

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

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=0V$ $V_{GS}=-25V$ $f=1MHz$	pF	—	332	—
Output Capacitance	C_{oss}			—	88	—
Reverse Transfer Capacitance	C_{rss}			—	19	—

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

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Total Gate Charge	Q_g	$V_{GS}=-10V$ $V_{DS}=-30V$ $I_D=-5A$	nC	—	4.92	—
Gate-Source Charge	Q_{gs}			—	0.97	—
Gate-Drain Charge	Q_{gd}			—	0.72	—
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=-10V$ $V_{DS}=-30V$ $I_D=-2A$ $R_{GEN}=5\Omega$	nS	—	6.8	—
Turn-on Rise Time	t_r			—	8	—
Turn-off Delay Time	$t_{D(off)}$			—	16	—
Turn-off fall Time	t_f			—	4	—

● Drian-Source Diode Characteristics

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Diode Forward Voltage ⁽³⁾	V_{SD}	$I_S=-5A, V_{GS}=0V$	V	—	—	-1.2
Maximum Body-Diode Continuous Current ⁽²⁾	I_S	—	A	—	—	-5

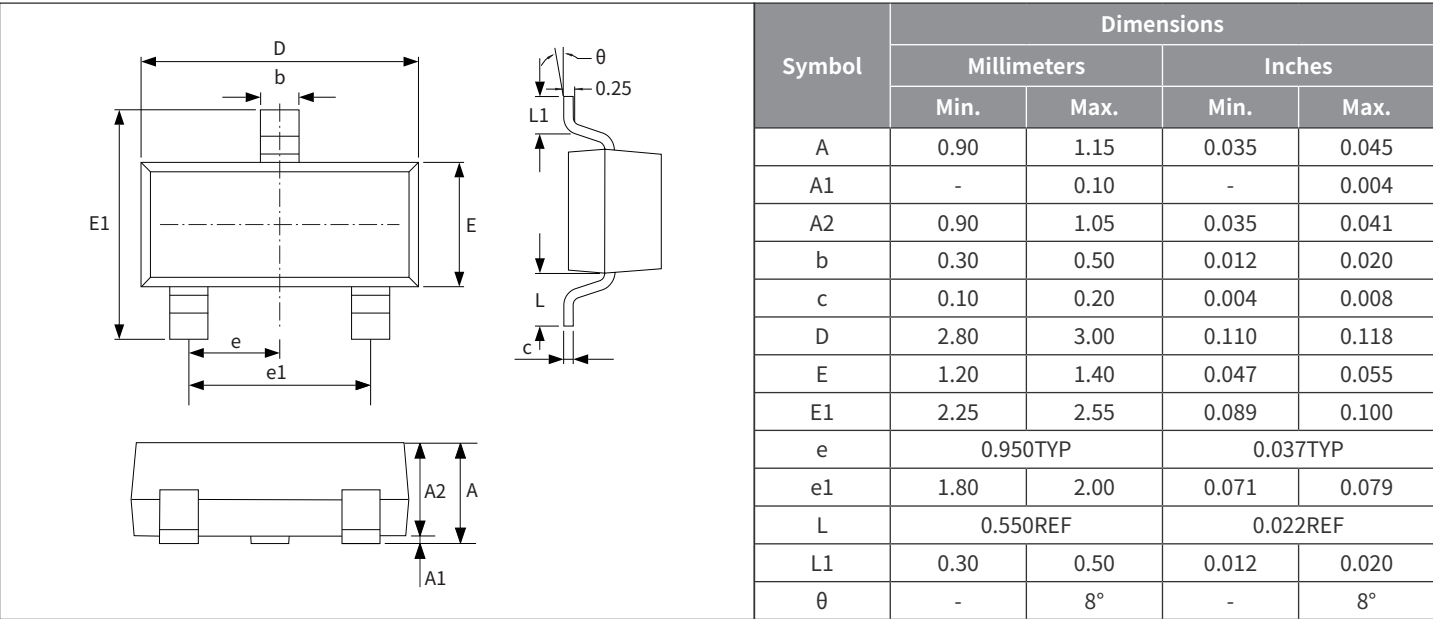
Note :

(1) $R_{\theta JA}$ is measured with the device mounted on a 1inch2 pad of 2oz copper FR4 PCB.

(2)The power dissipation is limited by 150°C junction temperature.

(3)The data tested by pulsed,pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

