

SOT-23 Plastic-Encapsulate MOSFETS

Features

- $V_{DS} = -50V$
- $I_D = -0.13A$
- $R_{DS(on)}@V_{GS} = -10V < 5\Omega$
- $R_{DS(on)}@V_{GS} = -5V < 6\Omega$
- Low Threshold Voltage
- Energy Efficient
- High-speed Switching

Applications

- Load switch for portable devices
- Power management in portable

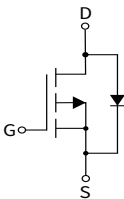
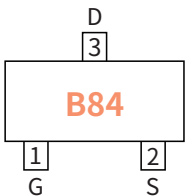
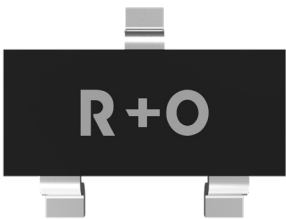
Mechanical Data

- 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
-50 V
Drain Current
-0.13 Ampere

SOT-23



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	-50
Gate-source Voltage	V_{GS}	V	± 20
Drain Current	I_D	A	-0.13
Pulsed Drain Current	I_{DM}	A	-0.52
Total Power Dissipation	P_D	W	0.225
Thermal Resistance Junction-to-Ambient @ Steady State	$R_{\theta JA}$	$^{\circ}C / W$	556
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	-50	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-50V, V_{GS}=0V$	μA	—	—	-10
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	nA	—	—	± 100
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	V	-0.9	-1.6	-2.0
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-0.1A$	Ω	—	1.8	5
		$V_{GS}=-5V, I_D=-0.1A$		—	2	6

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

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=0V$ $V_{GS}=-5V$ $f=1MHz$	pF	—	81	—
Output Capacitance	C_{oss}			—	32	—
Reverse Transfer Capacitance	C_{rss}			—	22.7	—

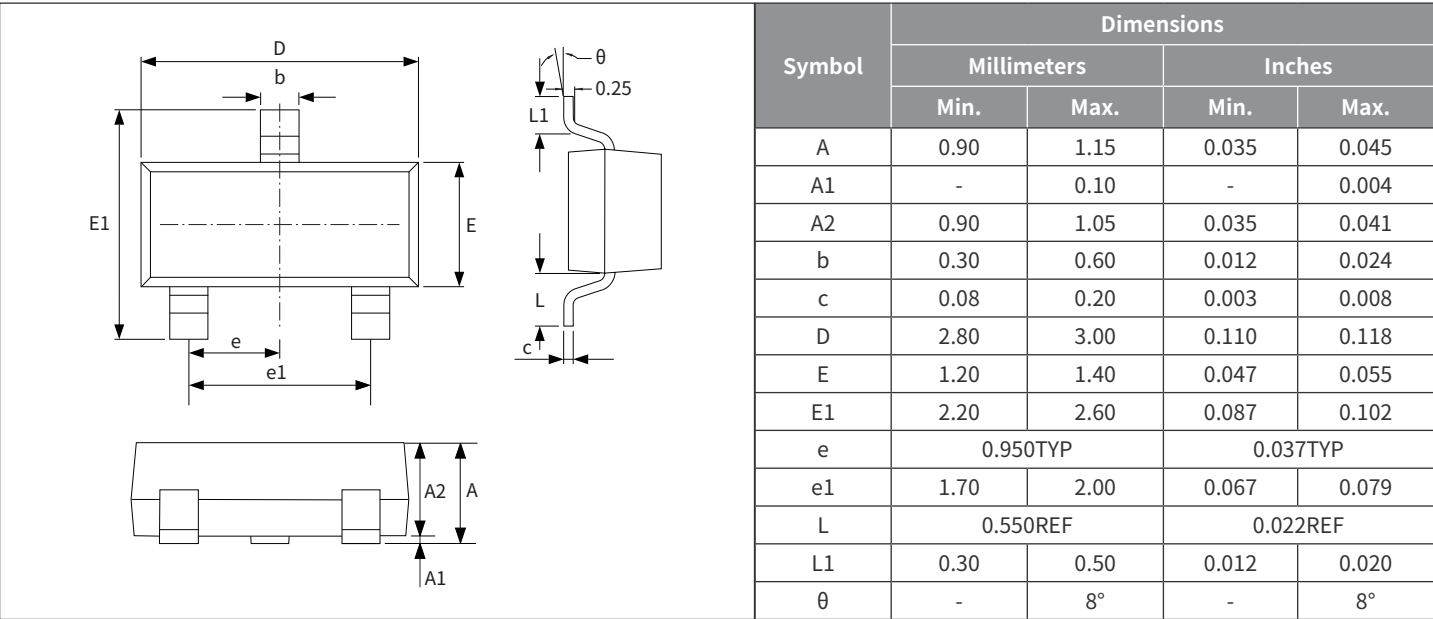
● Switching Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=-10V$ $V_{DS}=-15V$ $I_D=-2.5A$ $R_L=50\Omega$	nS	—	2.5	—
Turn-on Rise Time	t_r			—	1	—
Turn-off Delay Time	$t_{D(off)}$			—	16	—
Turn-off fall Time	t_f			—	8	—

● Drian-Source Diode Characteristics

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Diode Forward Voltage	V_{SD}	$I_S=-0.13A, V_{GS}=0V$	V	—	—	-1.2
Maximum Body-Diode Continuous Current	I_S	—	A	—	—	-0.13

● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

