

SOT-23 Plastic-Encapsulate MOSFETS

Features

- $V_{DS}=30V$
- $I_D=5A$
- $R_{DS(on)}@V_{GS}=4.5V < 29m\Omega$
- $R_{DS(on)}@V_{GS}=2.5V < 37m\Omega$
- Advanced trench technology
- Fast switching

Drain-source Voltage
30 V

Drain Current
5 Ampere

Applications

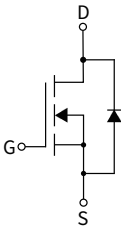
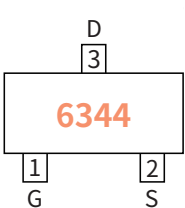
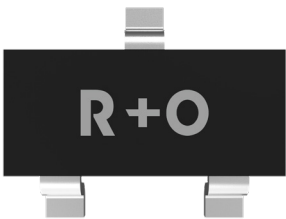
- Load switching
- Power management
- PWM application

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

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	120000	7"

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	± 12
Drain Current@Ta=25°C	I_D	A	5
Pulsed Drain Current	I_{DM}	A	25
Total Power Dissipation @ Ta=25°C	P_D	W	1.3
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	°C / W	100
Junction and Storage Temperature Range	T_J, T_{STG}	°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	30	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$	μA	—	—	1
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	nA	—	—	± 100
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=10\mu A$	V	0.5	0.8	1.1
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=5A$	m Ω	—	24	29
		$V_{GS}=2.5V, I_D=4A$		—	28	37

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

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1MHz$	pF	—	748	—
Output Capacitance	C_{oss}			—	73	—
Reverse Transfer Capacitance	C_{rss}			—	57	—

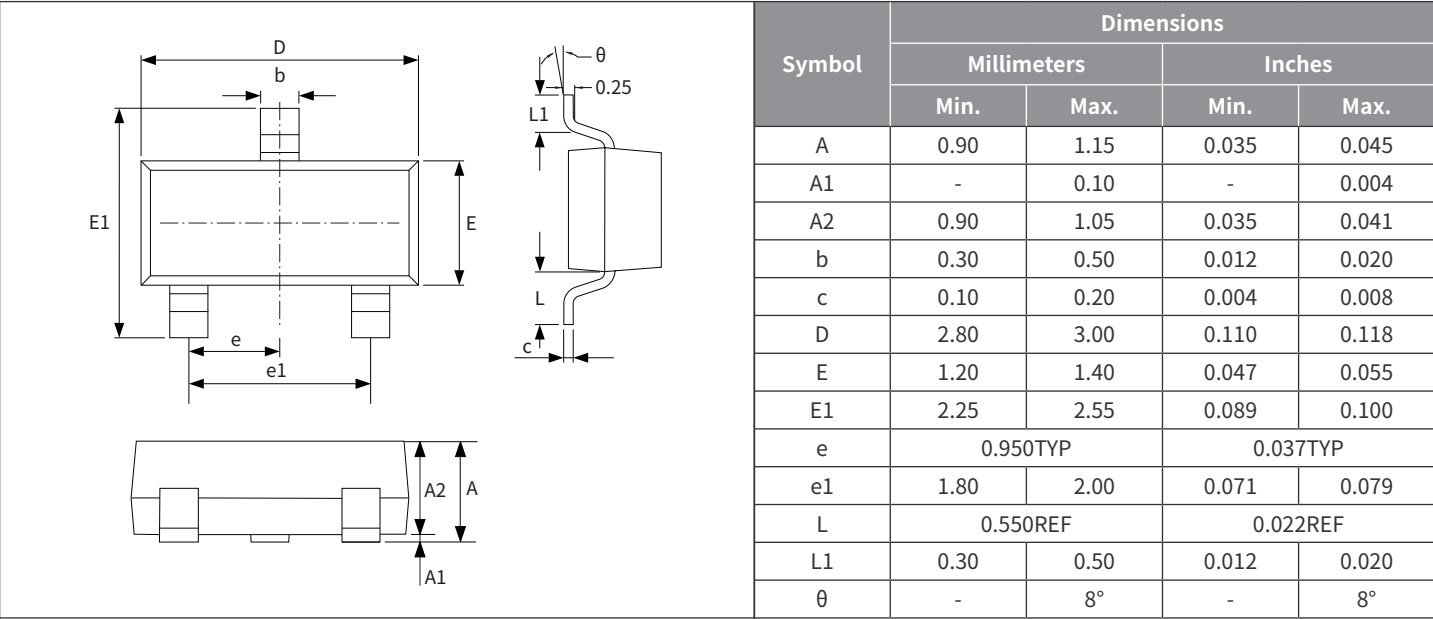
● Switching Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Total Gate Charge	Q_g	$V_{GS}=4.5V$ $V_{DS}=15V$ $I_D=5.0A$	nC	—	6.8	—
Gate-Source Charge	Q_{gs}			—	0.3	—
Gate-Drain Charge	Q_{gd}			—	2.4	—
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=4.5V$ $V_{DS}=15V$ $R_G=6.8\Omega$ $I_D=1.0A$	ns	—	4.2	—
Turn-on Rise Time	t_r			—	5.6	—
Turn-off Delay Time	$t_{D(off)}$			—	22	—
Turn-off fall Time	t_f			—	9.1	—

● Drian-Source Diode Characteristics

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Diode Forward Voltage	V_{SD}	$I_S=5A, V_{GS}=0V^{(2)}$	V	—	—	1.2
Maximum Body-Diode Continuous Current	I_S	—	A	—	—	5
Reverse Recovery Time	t_{rr}	$T_J=25^\circ C, I_F=1.3A,$ $di/dt=100A/\mu s$	nS	—	10	—
Reverse Recovery Charge	Q_{rr}		nC	—	3.8	—

● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

