

SOT-23 Plastic-Encapsulate MOSFETS

Features

- $V_{DS}=40V$
- $I_D=4A$
- $R_{DS(on)}@V_{GS}=10V < 43m\Omega$
- $R_{DS(on)}@V_{GS}=4.5V < 58m\Omega$
- Advanced Trench technology
- Lead free product is acquired

Drain-source Voltage
40 V
Drain Current
4 Ampere

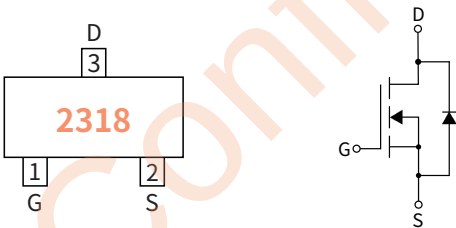
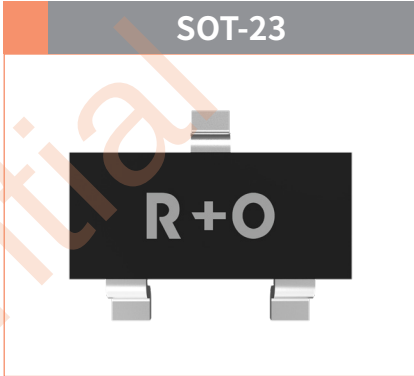
Applications

- Motor control
- Synchronous-rectification
- Power management

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	40
Gate-source Voltage		V_{GS}	V	± 20
Drain Current	$T_A=25^{\circ}C$ @ Steady State	I_D	A	4
Pulsed Drain Current		I_{DM}	A	15
Total Power Dissipation @ $T_A=25^{\circ}C$		P_D	mW	1400
Thermal Resistance Junction-to-Ambient @ Steady State		$R_{\theta JA}$	$^{\circ}C / W$	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	40	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40V, V_{GS}=0V$	μA	—	—	1.0
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	1.1	1.5	2.3
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=4A$	m Ω	—	25	43
		$V_{GS}=4.5V, I_D=3A$		—	30	58
Diode Forward Voltage	V_{SD}	$I_S=4A, V_{GS}=0V$	V	—	—	1.2

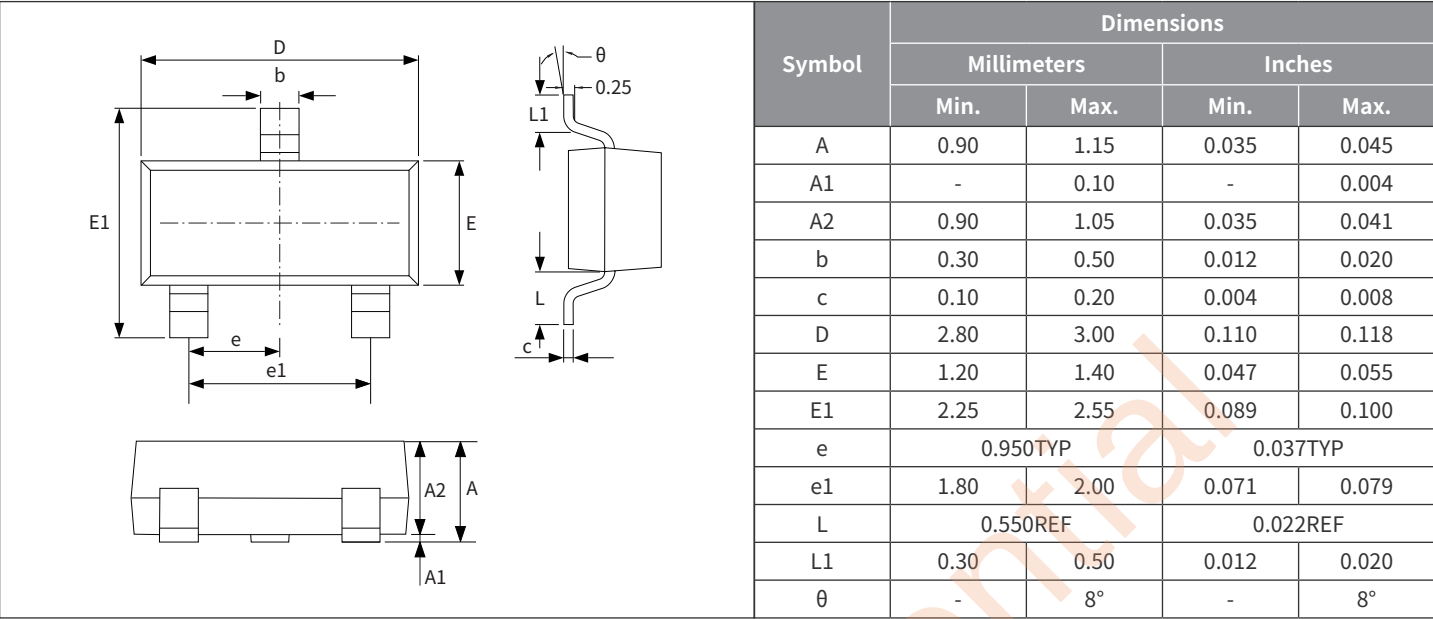
● Dynamic Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=20V$ $V_{GS}=0V$ $f=1MHz$	pF	—	715	—
Output Capacitance	C_{oss}			—	87	—
Reverse Transfer Capacitance	C_{rss}			—	71	—

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

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Total Gate Charge	Q_g	$V_{GS}=10V$ $V_{DS}=20V$ $I_D=3.5A$	nC	—	3	—
Gate-Source Charge	Q_{gs}			—	1	—
Gate-Drain Charge	Q_{gd}			—	1	—
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=10V$ $V_{DS}=20V$ $R_G=1\Omega$ $I_D=3.5A$	ns	—	7	—
Turn-on Rise Time	t_r			—	20	—
Turn-off Delay Time	$t_{D(off)}$			—	14	—
Turn-off fall Time	t_f			—	8	—

● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

