

SOT-323 Plastic-Encapsulate MOSFETS

Features

- $V_{DS}=50V$
- $I_D=0.22A$
- $R_{DS(on)}@V_{GS}=10V < 3.5\Omega$
- $R_{DS(on)}@V_{GS}=4.5V < 6.0\Omega$
- Trench Power MV MOSFET technology
- Voltage controlled small signal switch
- Fast Switching Speed

Applications

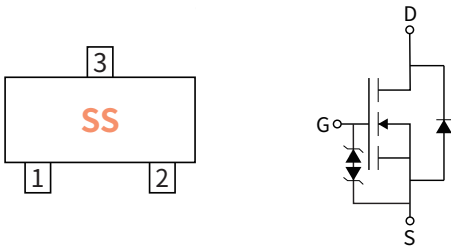
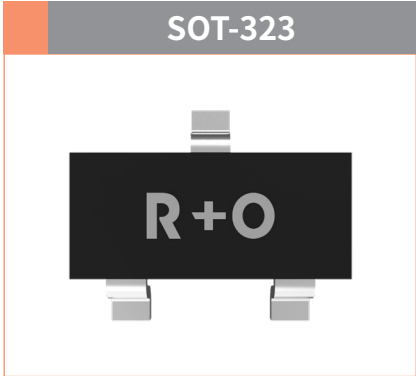
- Battery operated systems
- Solid-state relays
- Direct logic-level interface: TTL/CMOS

Mechanical Data

- Case: SOT-323
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Reference News

Drain-source Voltage
50 V
Drain Current
0.22 Ampere



Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-323	R1	0.008	3000	45000	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	0.22
Total Power Dissipation @ $T_A=25^{\circ}C$	P_D	W	0.3
ESD Protected Up to	ESD(HBM)	kV	2.0
Thermal Resistance Junction-to-Ambient @ Steady State	$R_{\theta JA}$	$^{\circ}C / W$	417
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	—	—	1.0
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	μA	—	—	± 10
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	V	0.5	1.0	1.5
Static Drain-Source On-Resistance ⁽¹⁾	$R_{DS(on)}$	$V_{GS}=10V, I_D=0.22A$	Ω	—	1.8	3.5
		$V_{GS}=4.5V, I_D=0.22A$		—	2.0	6.0

● 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	—	48	—
Output Capacitance	C_{oss}			—	26	—
Reverse Transfer Capacitance	C_{rss}			—	18	—

● Switching Parameters⁽¹⁾⁽²⁾ (Ta=25°C Unless otherwise specified)

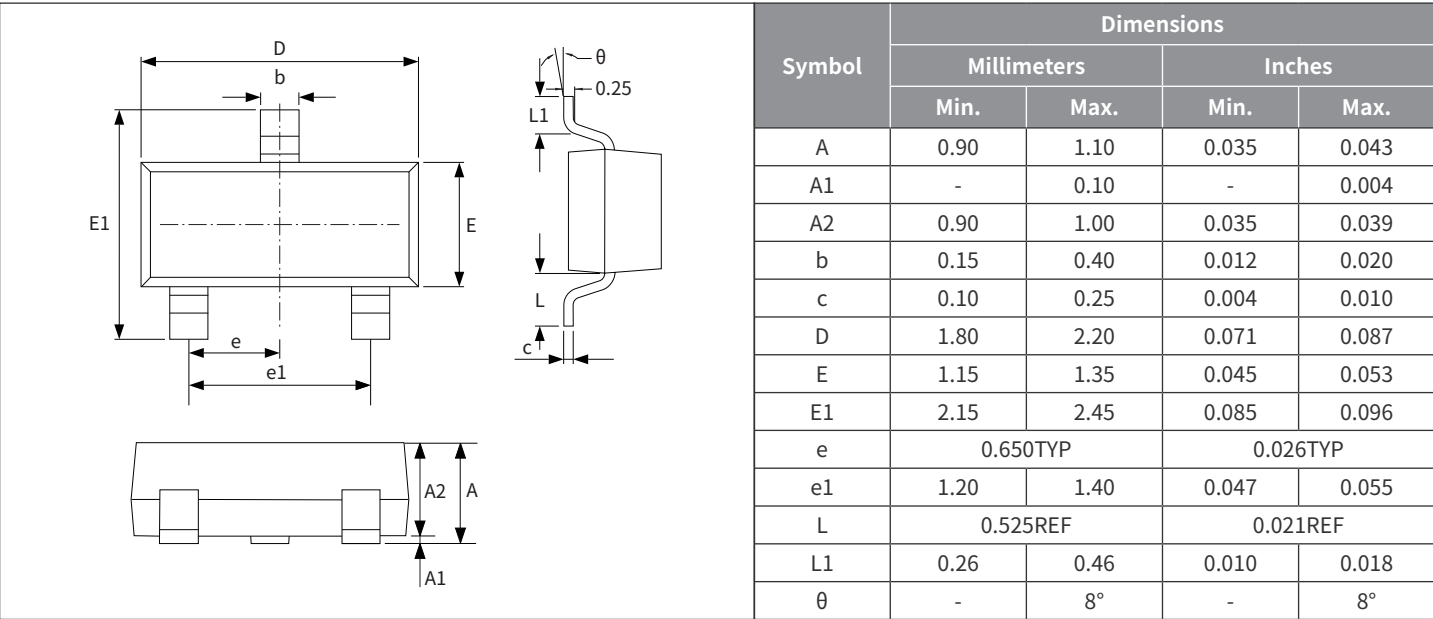
PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Turn-on Delay Time	$t_{D(on)}$	$V_{DD}=30V$ $I_D=0.29A$ $R_G=6.0\Omega$ $V_{GS}=10V$	ns	—	5.0	—
Turn-on Rise Time	t_r			—	18	—
Turn-off Delay Time	$t_{D(off)}$			—	36	—
Turn-off fall Time	t_f			—	14	—
Total Gate Charge	Q_g	$V_{DS}=25V, I_D=0.2A$ $V_{GS}=10V$	nC	—	0.95	—
Gate-Source Charge	Q_{gs}		nC	—	0.10	—
Gate-Drain Charge	Q_{gd}		nC	—	0.14	—

● Drian-Source Diode Characteristics

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Diode Forward Voltage ⁽¹⁾	V_{SD}	$I_S=0.22A, V_{GS}=0V$	V	—	—	1.2
Maximum Body-Diode Continuous Current	I_S	—	A	—	—	0.22
Reverse Recovery Time	t_{rr}	—	nS	—	8.8	—
Reverse Recovery Charge	Q_{rr}		nC	—	2.6	—

Note :
(1)Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
(2)These parameters have no way to verify.

● Package Outline Dimensions (SOT-323)



● Suggested Pad Layout

