

SOT-23 Plastic-Encapsulate MOSFETS

Features

- $V_{DS}=60V$
- $I_D=340mA$
- $R_{DS(on)}@V_{GS}=10V < 5\Omega$
- $R_{DS(on)}@V_{GS}=4.5V < 5.3\Omega$
- ESD protected
- Rugged and reliable
- High density cell design for low $R_{DS(on)}$

Applications

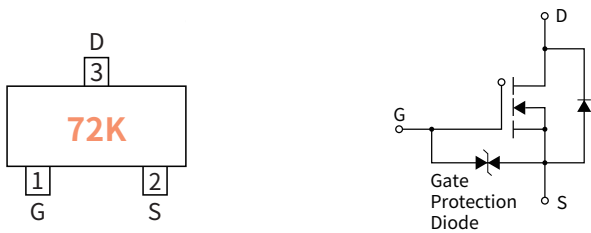
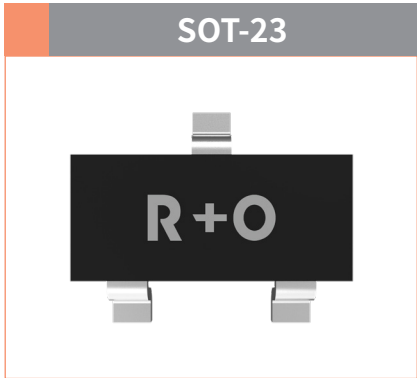
- Battery operated systems
- Solid-state relays
- Direct logic-level interface: TTL/CMOS

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

Reference News

Drain-source Voltage
60 V
Drain Current
0.34 Ampere



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	mA	340
Pulsed Drain Current ⁽¹⁾	I_{DM}	A	0.8
Total Power Dissipation @ $T_A=25^{\circ}C$	P_D	mW	350
Thermal Resistance Junction-to-Ambient @ Steady State ⁽²⁾	$R_{\theta JA}$	$^{\circ}C / W$	357
Junction and Storage Temperature Range	T_J, T_{STG}	$^{\circ}C$	-55 ~+150

Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

● 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}	$V_{GS}=\pm 20V, V_{DS}=0V$	μA	—	—	± 10
Gate Threshold Voltage ⁽¹⁾	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=1.0mA$	V	1.0	1.3	2.5
Static Drain-Source On-Resistance ⁽¹⁾	$R_{DS(on)}$	$V_{GS}=10V, I_D=500mA$	Ω	—	0.9	5.0
		$V_{GS}=4.5V, I_D=200mA$		—	1.1	5.3
Diode Forward voltage	V_{SD}	$V_{GS}=0V, I_S=300mA$	V	—	—	1.5

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

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance ⁽²⁾	C_{iss}	$V_{DS}=10V$ $V_{GS}=0V$ $f=1MHz$	pF	—	—	40
Output Capacitance ⁽²⁾	C_{oss}			—	—	30
Reverse Transfer Capacitance ⁽²⁾	C_{rss}			—	—	10

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

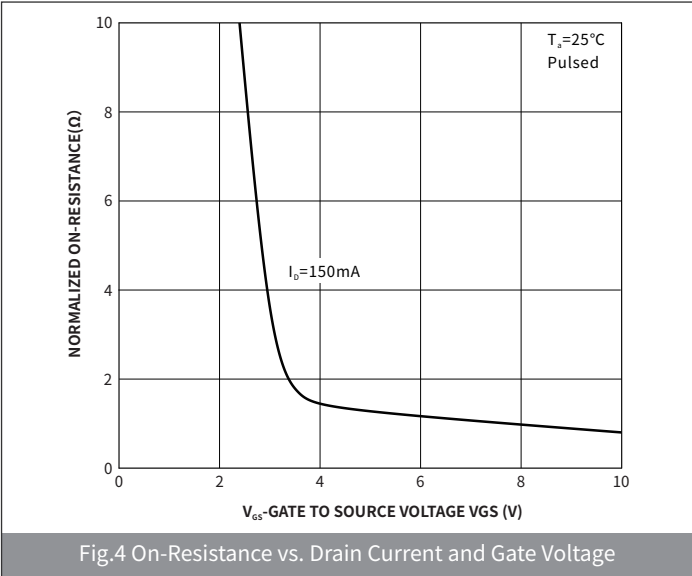
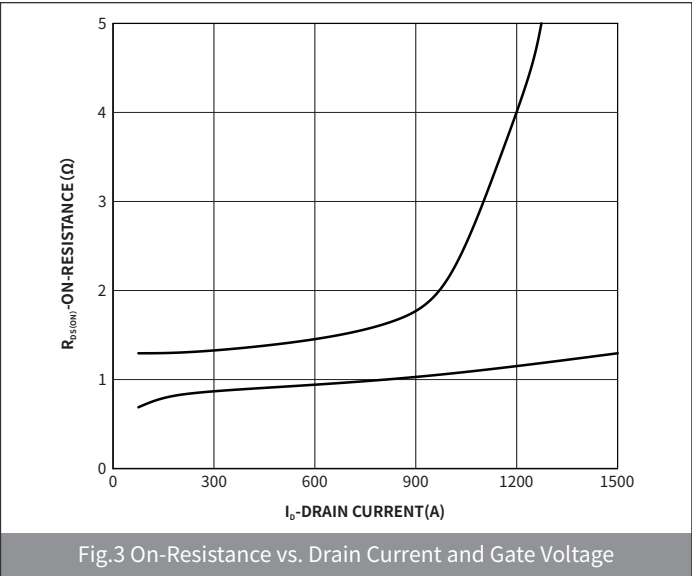
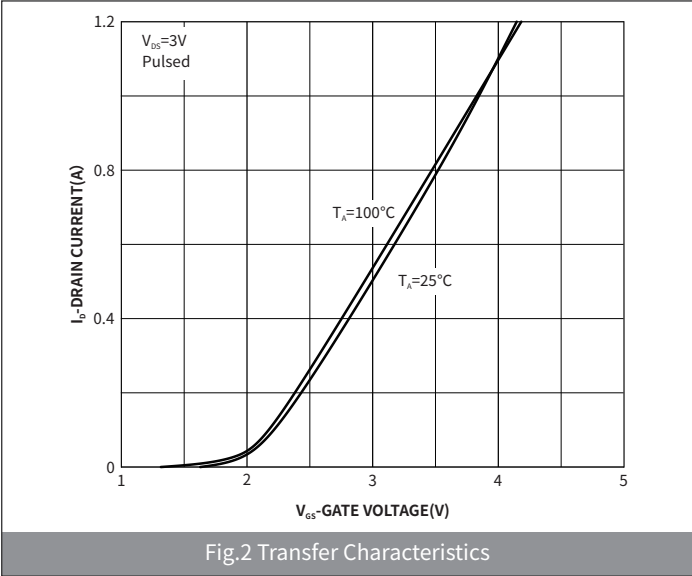
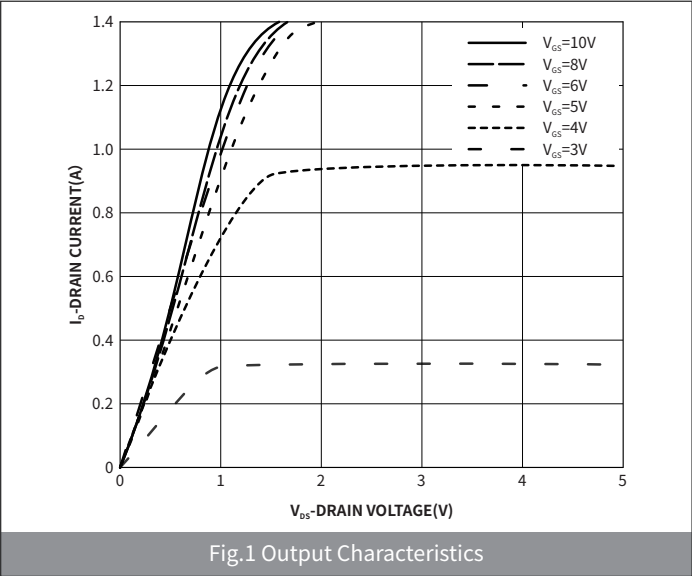
PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Reverse recovery Time	T _{rr}	V _{GS} =0V, I _s =300mA, V _R =25V,Dis/dt=100a/μS	ns	—	30	—
Turn-on Delay Time ⁽²⁾	t _{D(on)}	V _{DD} =0V, V _{GS} =10V R _L =250Ω R _{GEN} =50Ω , R _{GS} =50Ω		—	—	10
Turn-off Delay Time ⁽²⁾	t _{D(off)}			—	—	15
Gate-Source Breakdown Voltage	BV _{GSO}	I _{gs} =±1mA(Open Drain)	V	±21.5	—	±30

Note :

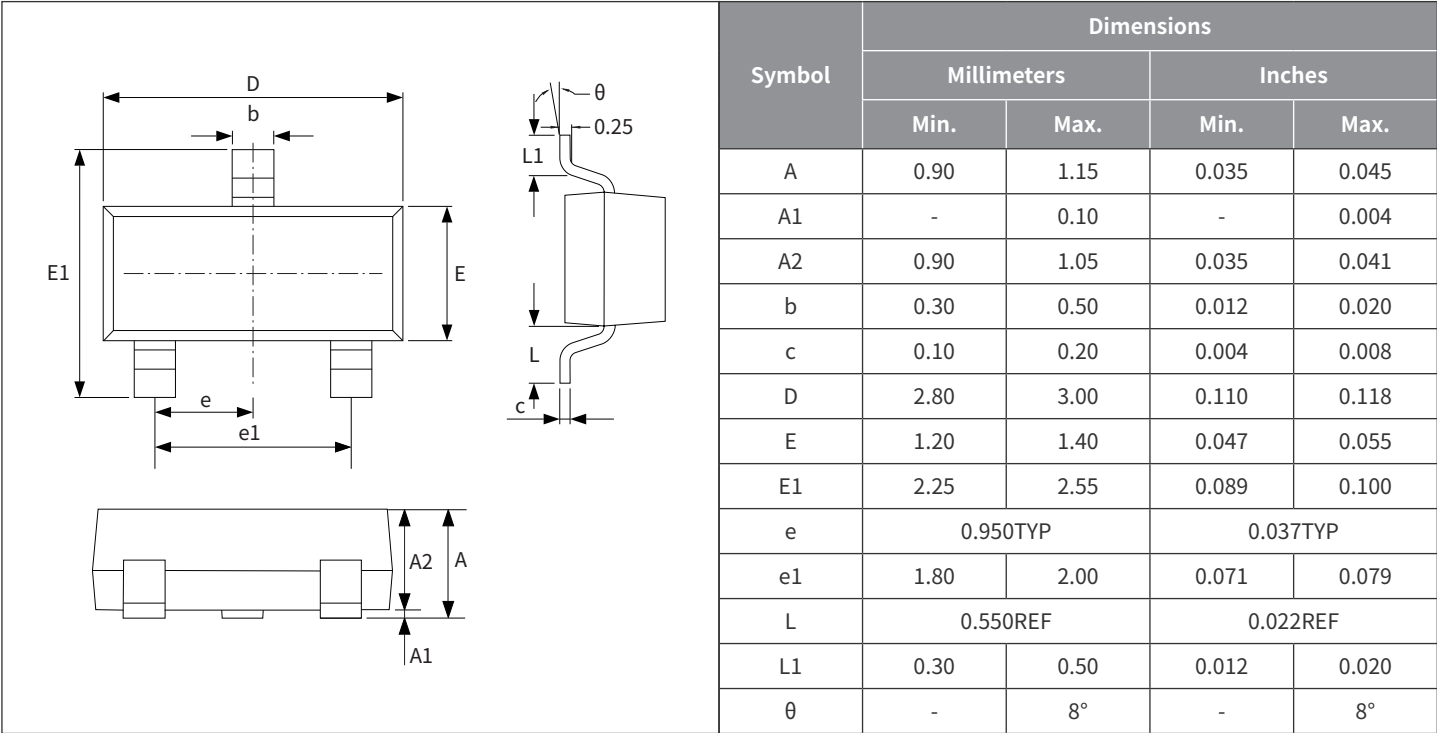
(1)Pulse test ; Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

(2)Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

