

SOT-23 Plastic-Encapsulate MOSFETS

Features

- VDS=20V
- ID=5.5A
- RDS(on)@VGS=4.5V < 25mΩ
- RDS(on)@VGS=2.5V < 32mΩ
- Trench Power MV MOSFET technology
- Voltage controlled small signal switch
- Fast Switching Speed

Applications

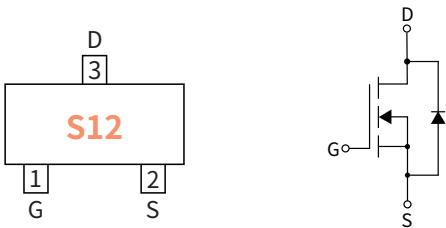
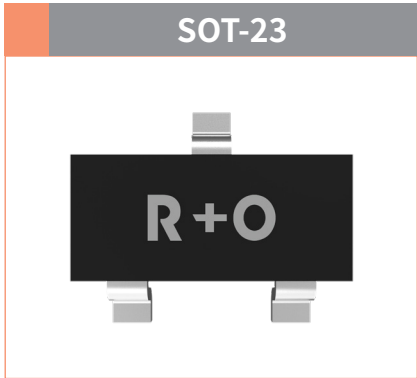
- Battery operated systems
- Solid-state relays
- Direct logic-level interface: TTL/CMOS

Mechanical Data

- Case: SOT-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
20 V
Drain Current
5.5 Ampere



Maximum Ratings (Ta=25°C Unless otherwise specified)

Table with 4 columns: PARAMETER, SYMBOL, UNIT, VALUE. Rows include Drain-source Voltage, Gate-source Voltage, Drain Current, Pulsed Drain Current, Total Power Dissipation, Thermal Resistance, and Junction and Storage Temperature Range.

Note :
(1)Surface Mounted on 1" x 1" FR4 Board. Pulse test.
(2)Pulse width limited by maximum junction temperature.

Ordering Information

Table with 7 columns: PACKAGE, PACKAGE CODE, UNIT WEIGHT(g), REEL(pcs), BOX(pcs), CARTON(pcs), DELIVERY MODE. Row for SOT-23 package.

● 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	20	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	μA	—	—	1.0
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 8.0V, V_{DS}=0V$	nA	—	—	± 100
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	V	0.45	0.62	1.0
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=4.5A$	m Ω	—	19.5	25
		$V_{GS}=2.5V, I_D=3.0A$		—	25	32
		$V_{GS}=1.8V, I_D=2.7A$		—	33	49
Forward Transconductance	g_{fs}	$V_{DS}=15V, I_D=5.0A$	S	—	40	—
Diode Forward Voltage	V_{SD}	$I_S=4.5A, V_{GS}=0V$	V	—	0.8	1.2

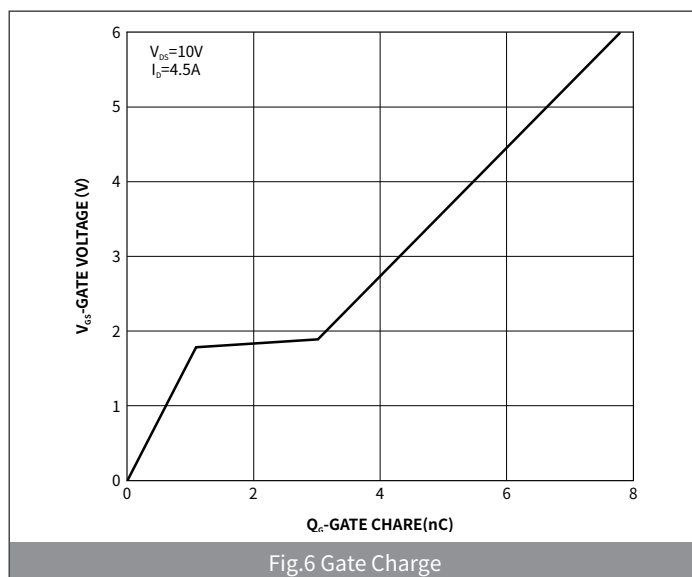
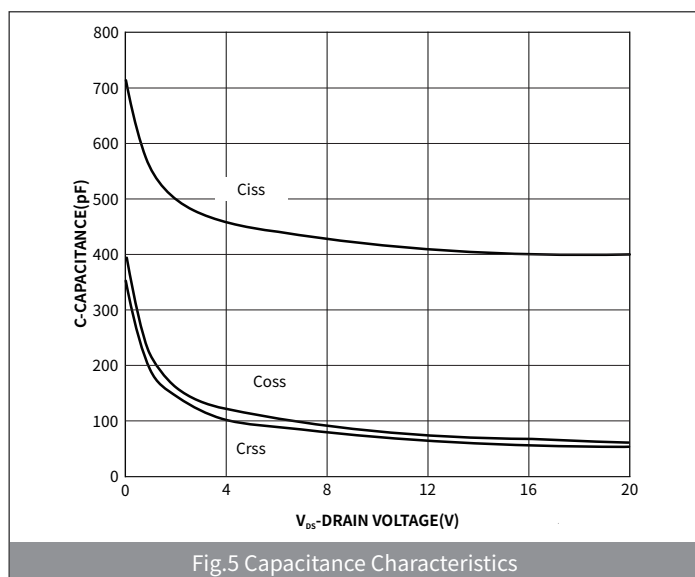
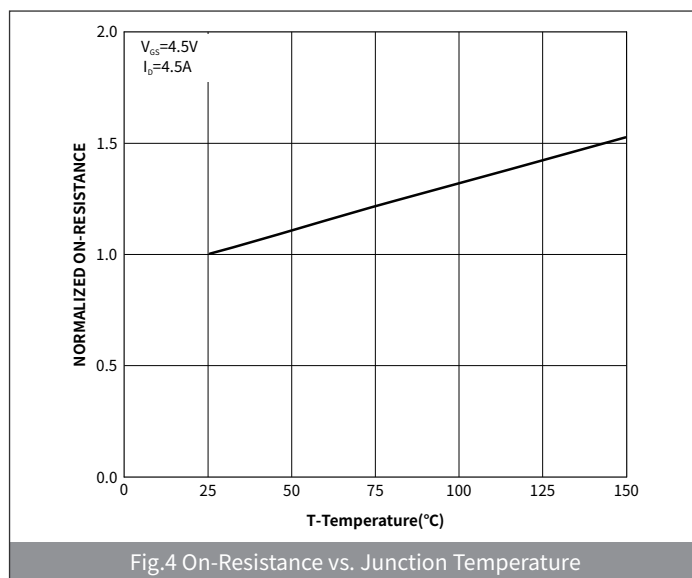
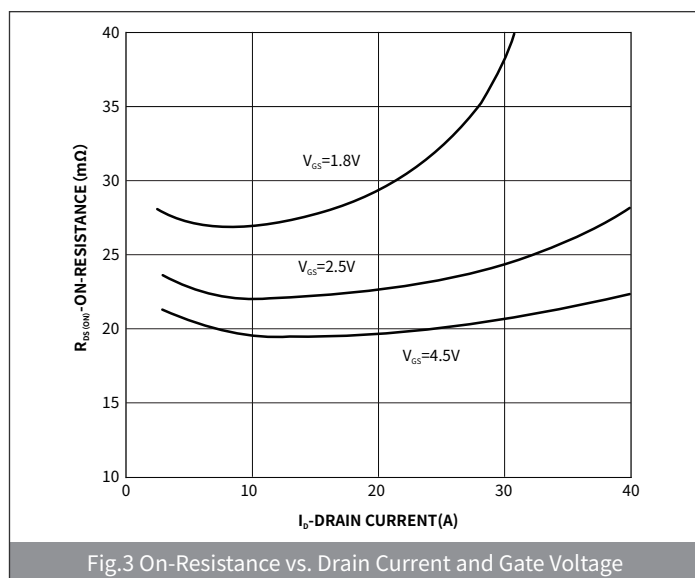
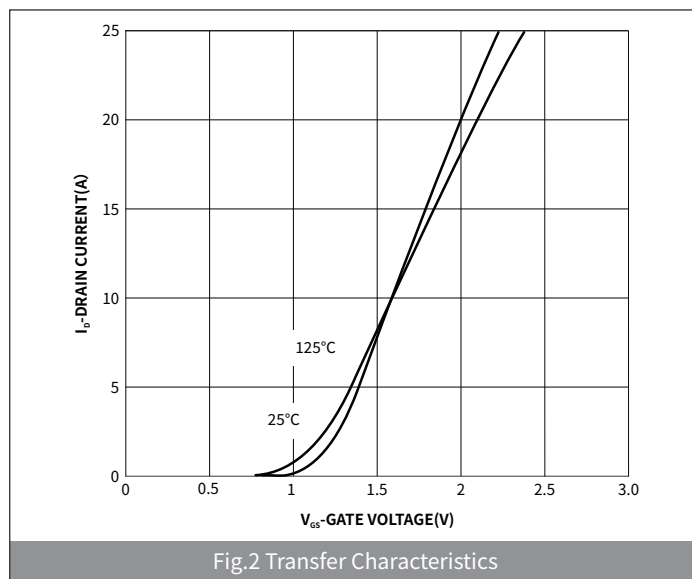
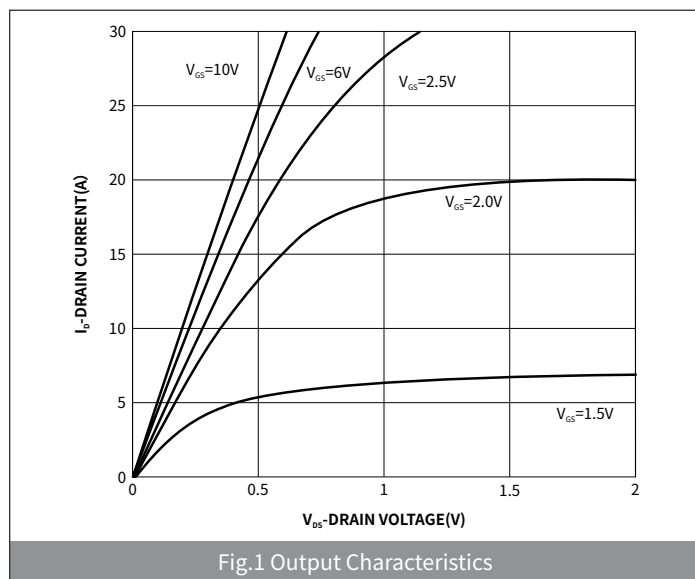
● Dynamic Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=10V$ $V_{GS}=0V$ $f=1MHz$	pF	—	418	—
Output Capacitance	C_{oss}			—	82	—
Reverse Transfer Capacitance	C_{rss}			—	70	—

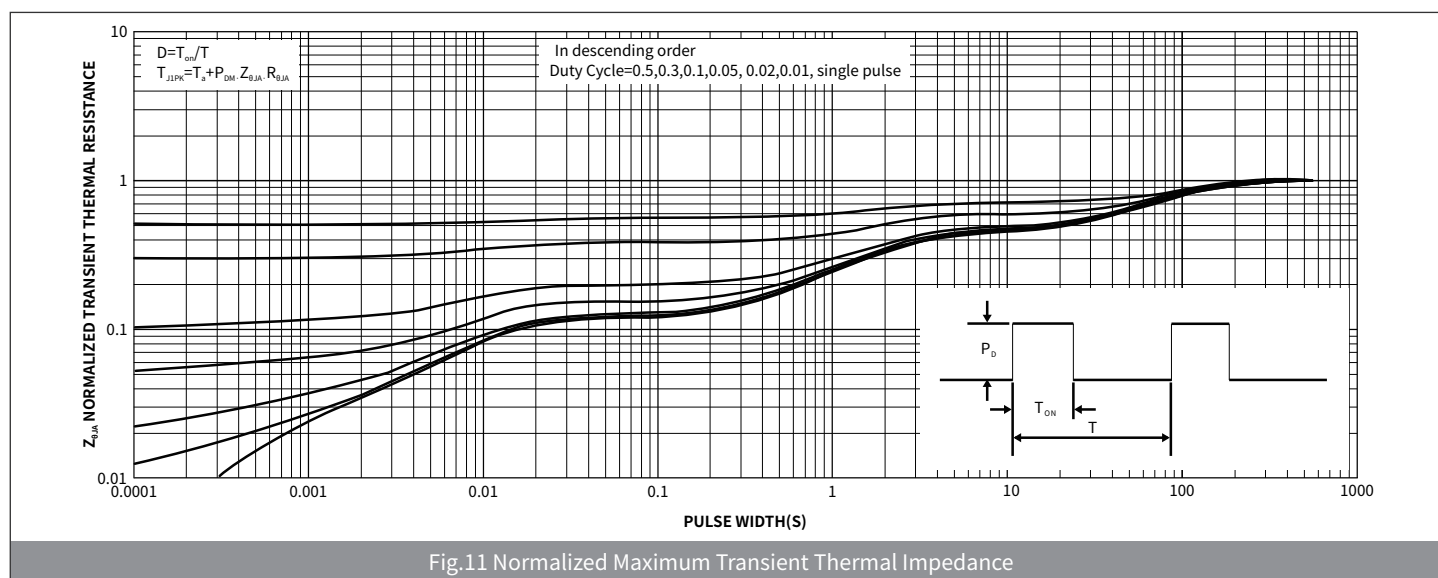
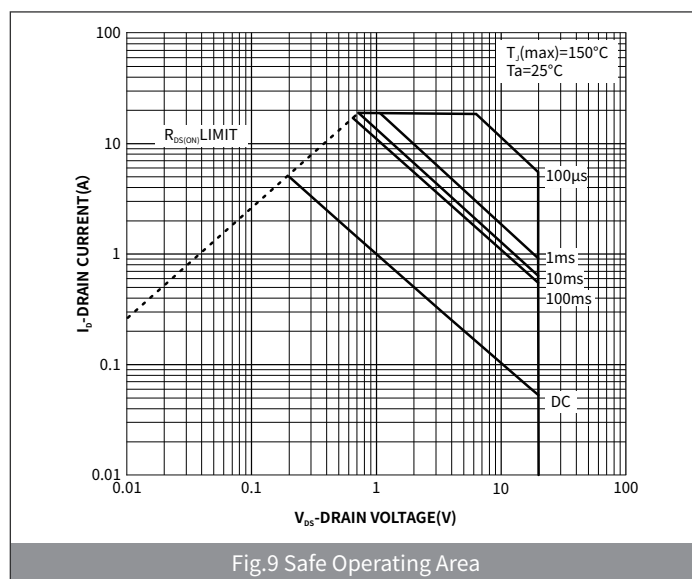
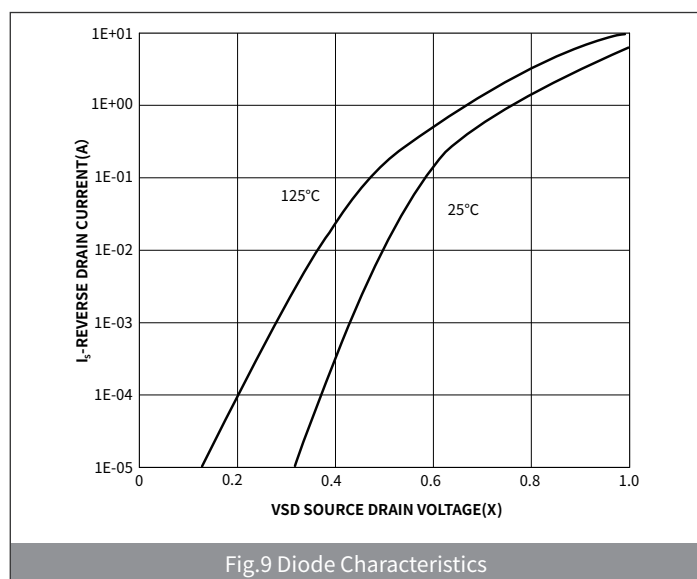
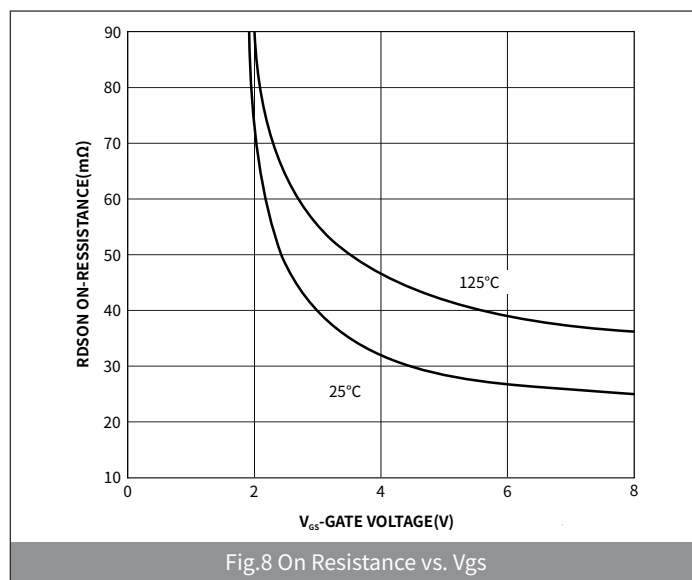
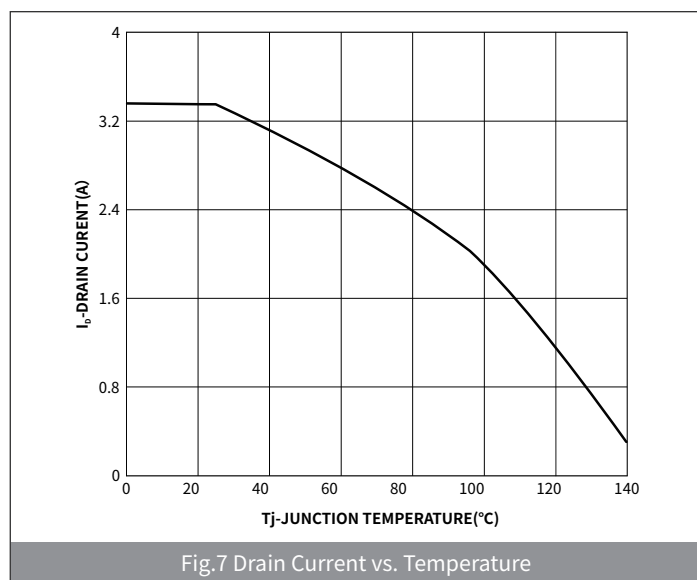
● Switching Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Total Gate Charge	Q _g	V _{GS} =4.5V V _{DS} =10V I _D =4.5A	nC	—	6.0	—
Gate-Source Charge	Q _{gs}			—	1.0	—
Gate-Drain Charge	Q _{gd}			—	2.0	—
Reverse Recovery Time	t _{rr}	I _F =1.0A, di/dt=-100A/us	ns	—	13	25
Turn-on Delay Time	t _{D(on)}	V _{GS} =4.5V V _{DS} =10V R _G =3.0Ω I _D =4.5A		—	4.0	—
Turn-on Rise Time	t _r			—	20	—
Turn-off Delay Time	t _{D(off)}			—	23	—
Turn-off fall Time	t _f			—	23	—

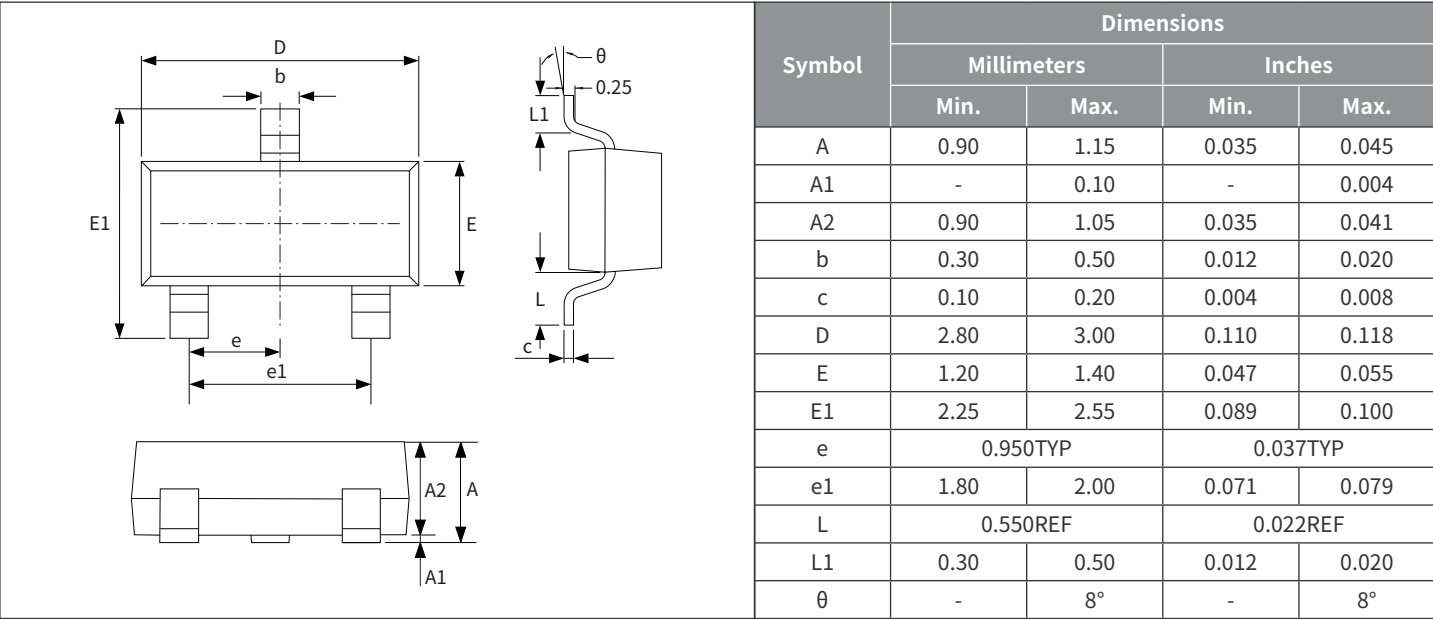
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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Package Outline Dimensions (SOT-23)



Suggested Pad Layout

