

Description

This 50V 200mA N-Channel MOSFET in a SOT-23 Plastic Package.

Features

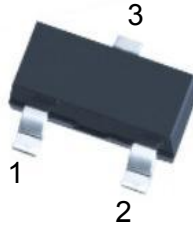
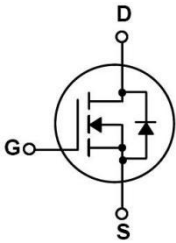
- Low $R_{DS(on)}$
- Rugged and reliable
- Compact industry standard SOT-23 surface mount package
- ESD protected up to 1500V
- Halogen Free Product

Applications

Typical applications are DC–DC converters, power management inportable and battery–powered products.

V_{DSS}	$R_{DS(on)}$ Typ	I_D
50V	2.5 Ω	200mA

Equivalent Circuit & Pinning



PIN1 : Gate PIN 2 : Source

PIN 3 : Drain

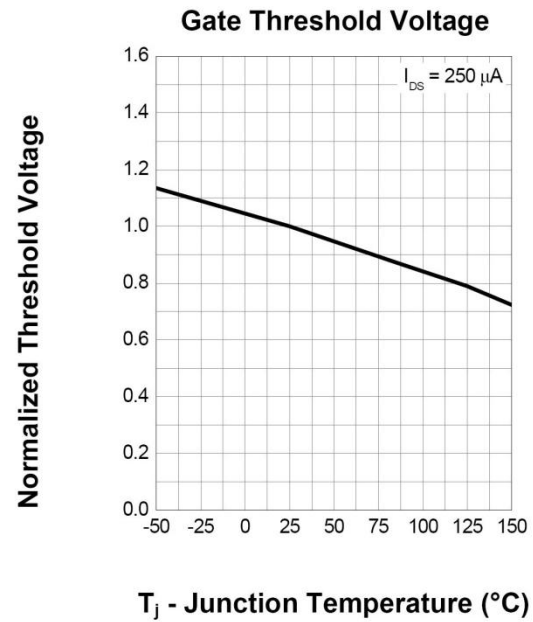
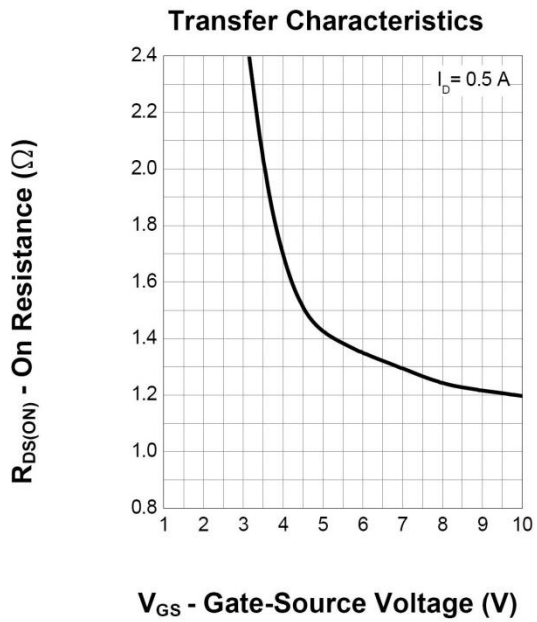
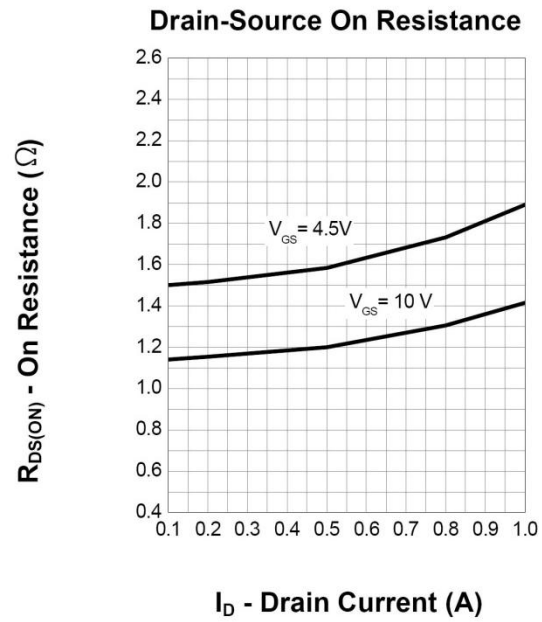
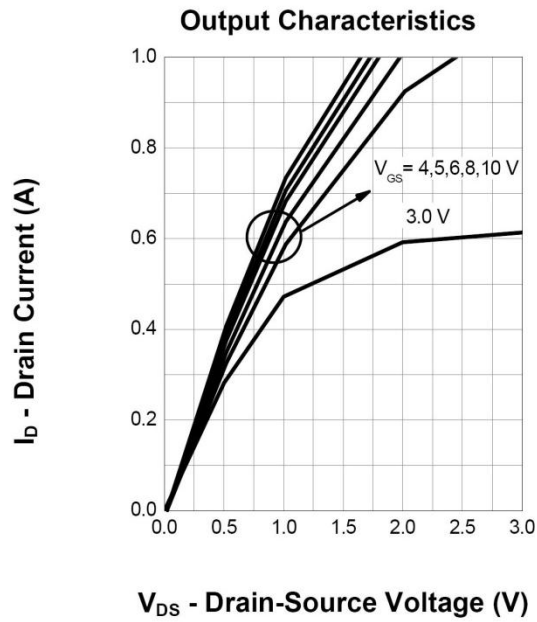
Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current – Continuous	I_D	200	mA
Peak Drain Current	I_{DM}	800	mA
Power Dissipation	P_D	225	mW
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556	℃/W
Storage Temperature Range	T_{stg}	-55~150	℃

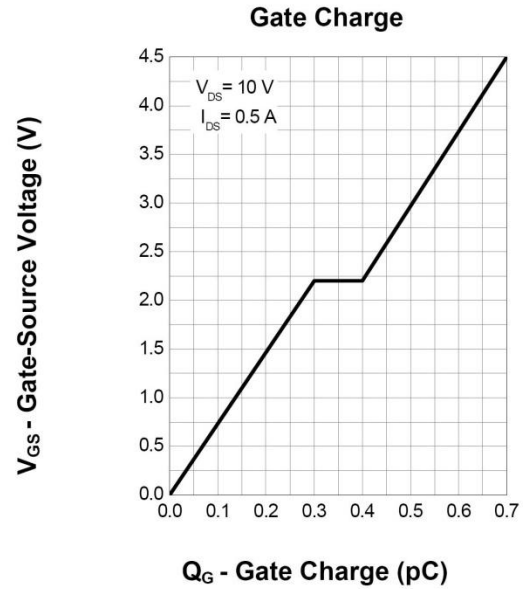
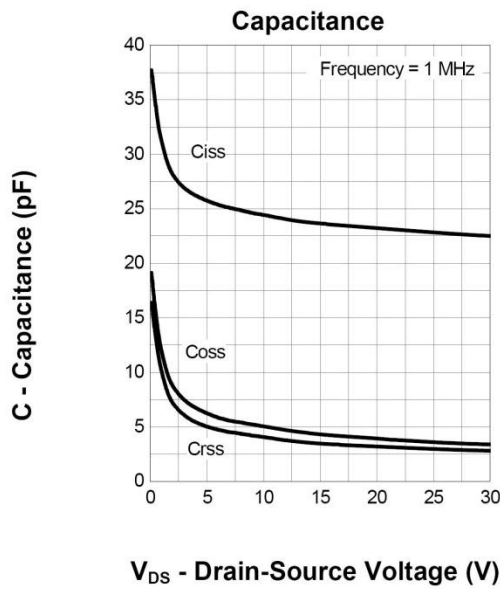
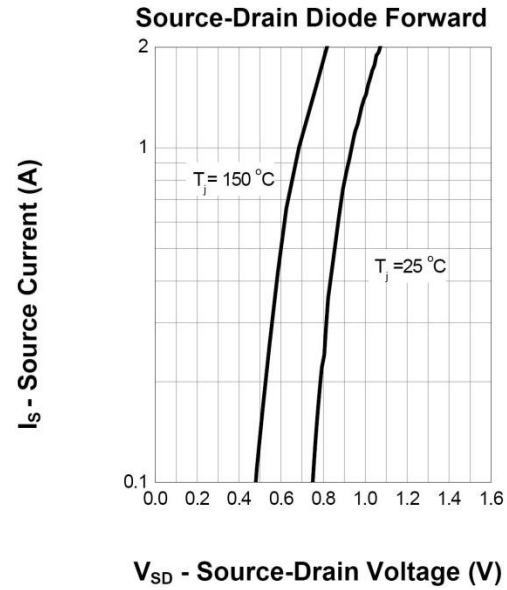
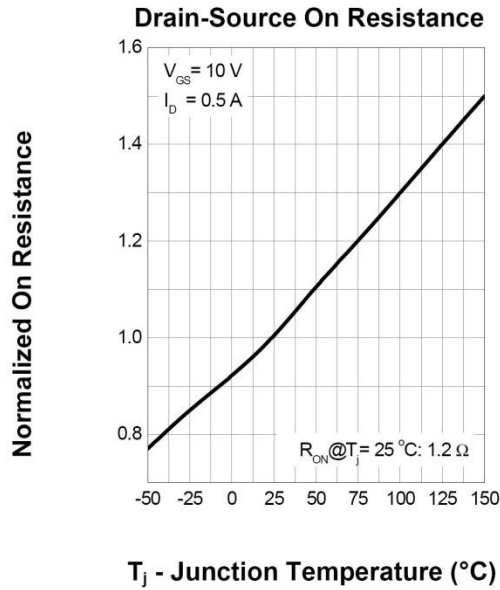
Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DS}$	$V_{GS} = 0$ $I_D = 250 \mu A$	50			V
Zero Gate Voltage Drain Current	$I_{DSS(1)}$	$V_{GS}=0$ $V_{DS}=25V$			0.1	μA
	$I_{DSS(2)}$	$V_{GS}=0$ $V_{DS}=50V$			0.5	μA
Gate-Body Leakage.	I_{GSS}	$V_{DS}=0V$ $V_{GS}=\pm 20$			±10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=1.0mA$	0.5		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	$V_{GS}=10V$ $I_D=200mA$		2.5	3.5	Ω
	$R_{DS(on)(2)}$	$V_{GS}=4.5V$ $I_D=200mA$		3.1	5	Ω
	$R_{DS(on)(3)}$	$V_{GS}=2.75V$ $I_D<200mA$ $T_a=-40^{\circ}C$ to $+85^{\circ}C$		5.6	10	Ω
Forward Transconductance	g_{FS}	$V_{DS}=25V$ $I_D=200mA$	100			mS
Input Capacitance	C_{iss}	$V_{DS} = 25V$ $V_{GS} = 0$ $f = 1.0$ MHz		22.8		pF
Output Capacitance	C_{oss}	$V_{DS} = 25V$ $V_{GS} = 0$ $f = 1.0$ MHz		3.5		
Transfer Capacitance	C_{rss}	$V_{DS} = 25V$ $V_{GS} = 0$ $f = 1.0$ MHz		2.9		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = 30V$ $I_{DS}=0.5 A$		3.8		ns
Turn-Off Delay Time	$t_{d(off)}$			19	36	ns

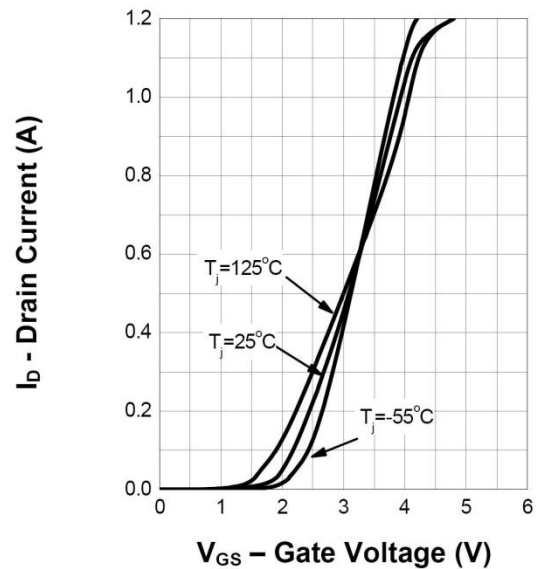
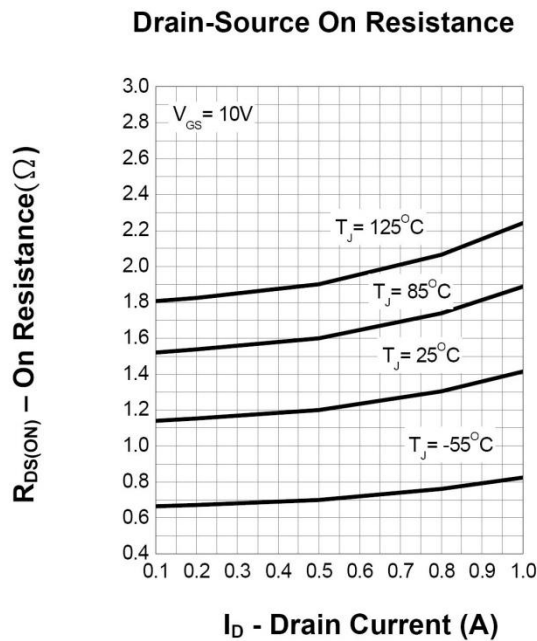
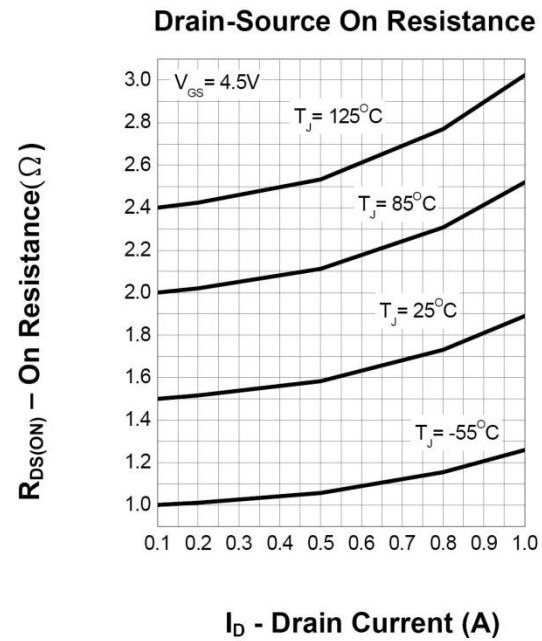
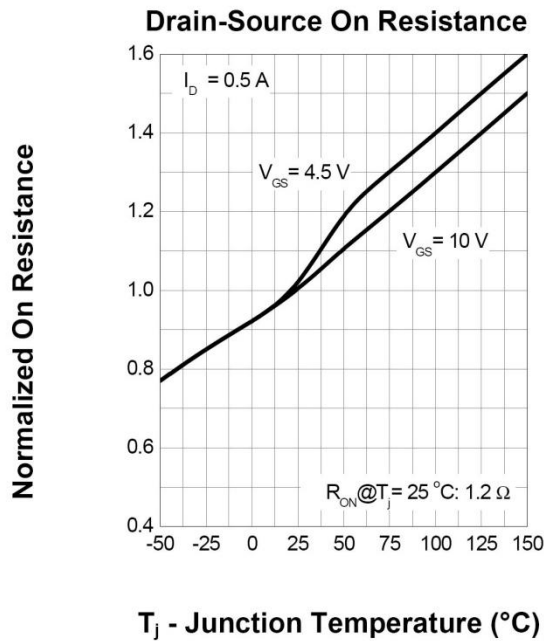
Electrical Characteristic Curve



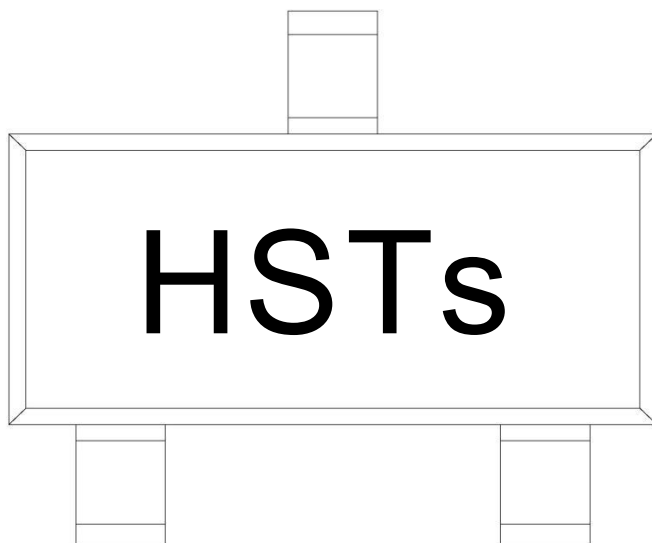
Electrical Characteristic Curve



Electrical Characteristic Curve



Marking Instructions



Note:

H: Halogen Free

STs: Product Type.

Packaging SPEC.

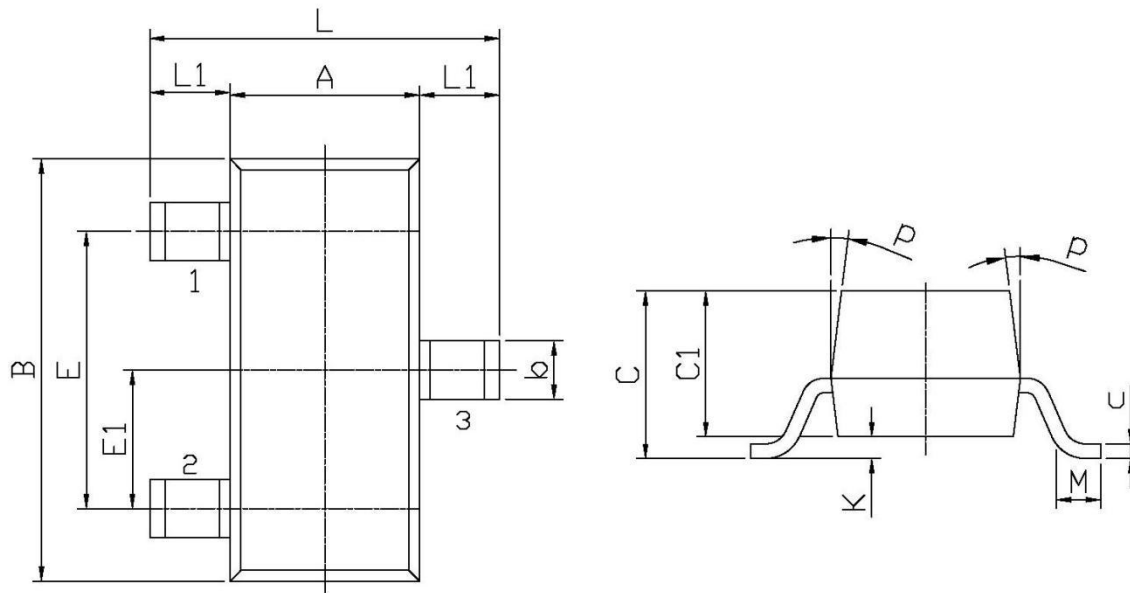
REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

Package Outline Dimensions

SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			