

Descriptions

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

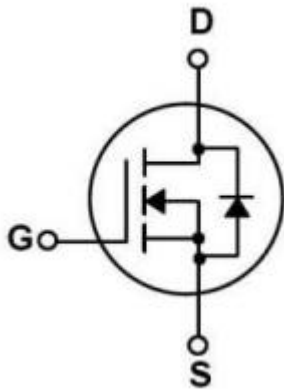
Features

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

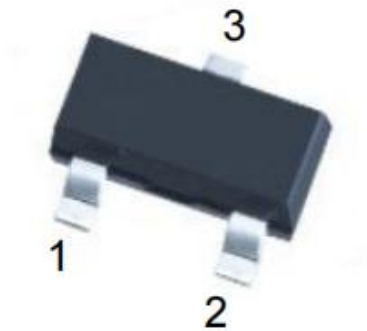
Applications

Typical applications are DC-DC converters, power management in portable and battery-powered products.

Equivalent Circuit



Pinning



PIN1: Gate

PIN 2: Source

PIN 3: Drain

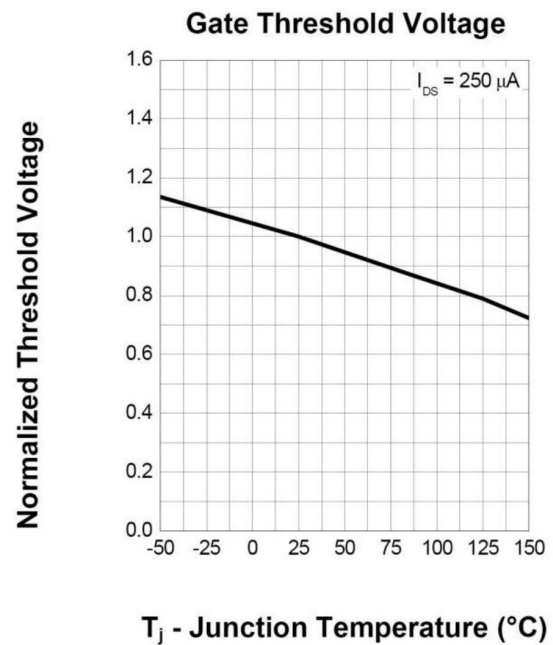
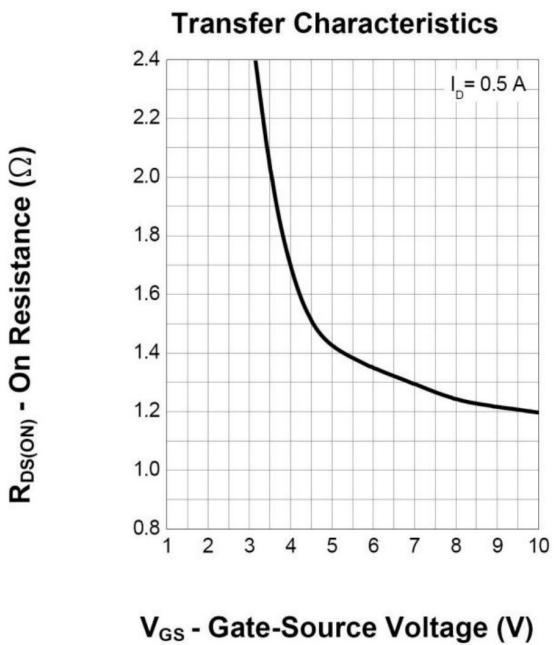
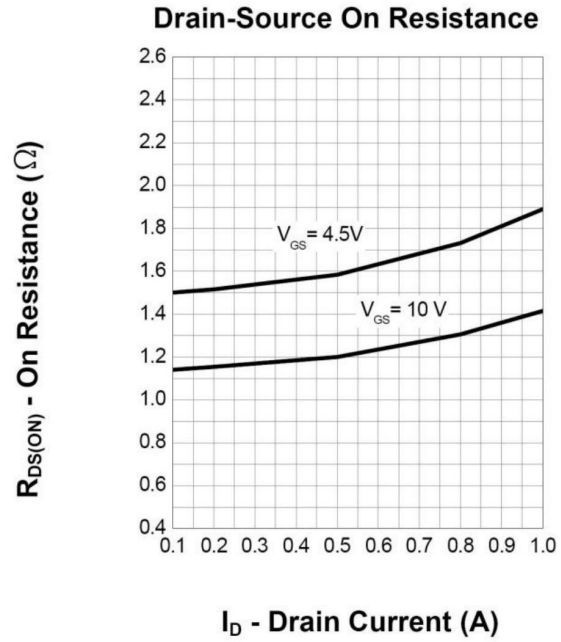
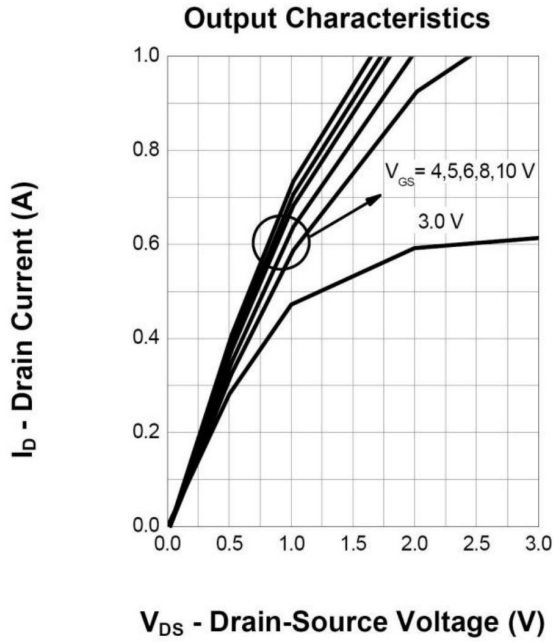
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	50	V
Gate-Source Voltage	V_{GSS}	±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	°C/W
Storage Temperature Range	T_{stg}	-55~150	°C

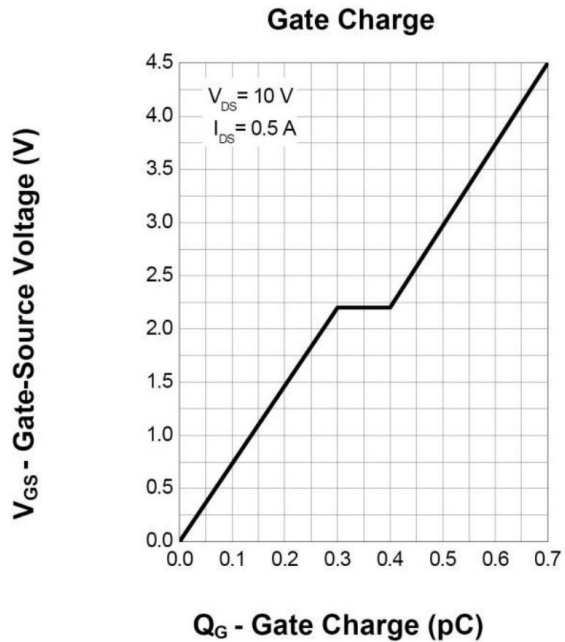
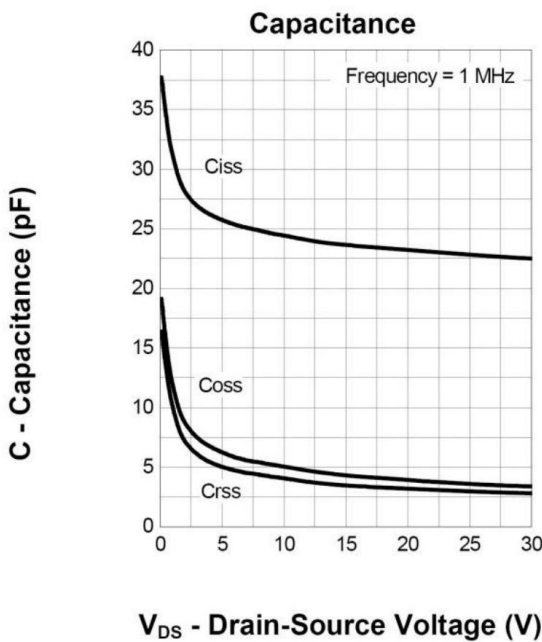
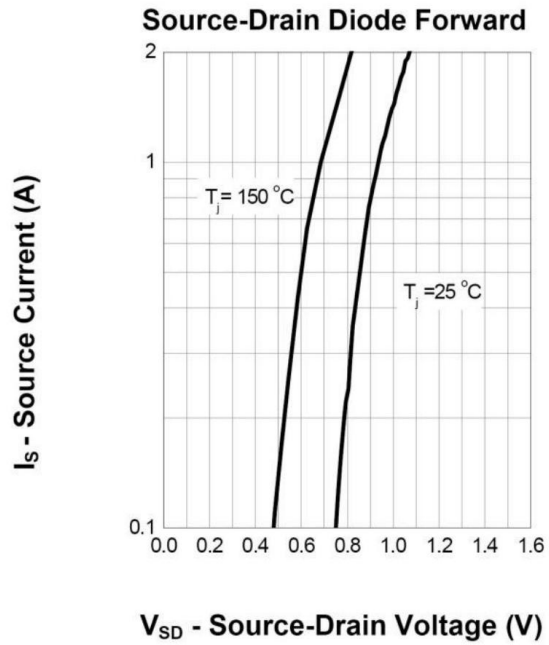
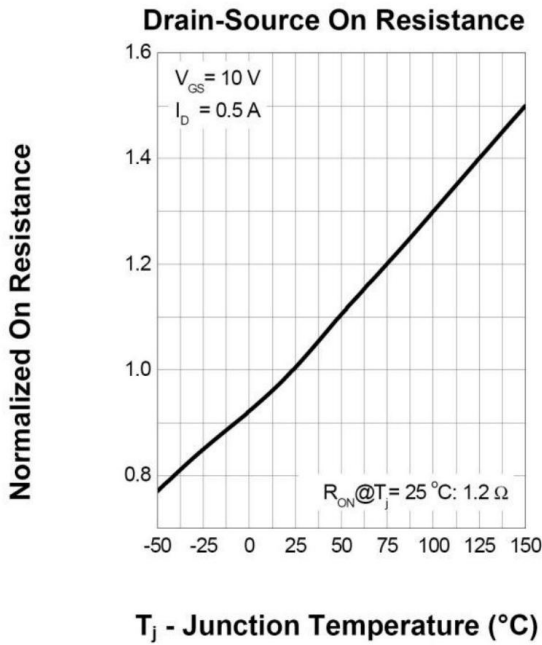
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0$ $I_D = 250 \mu A$	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

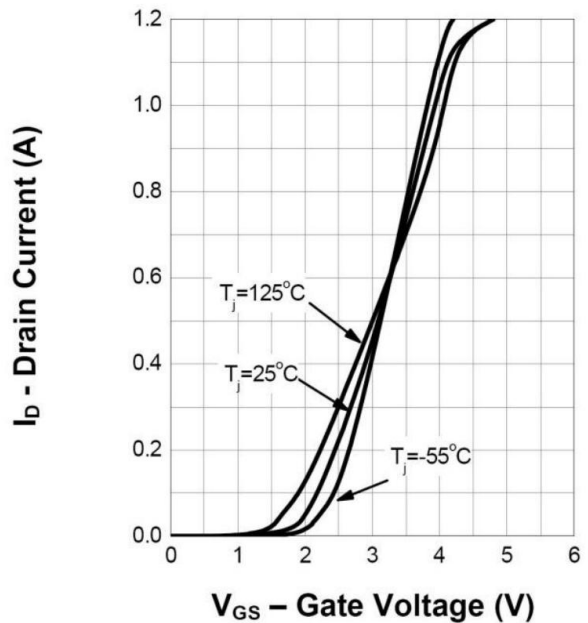
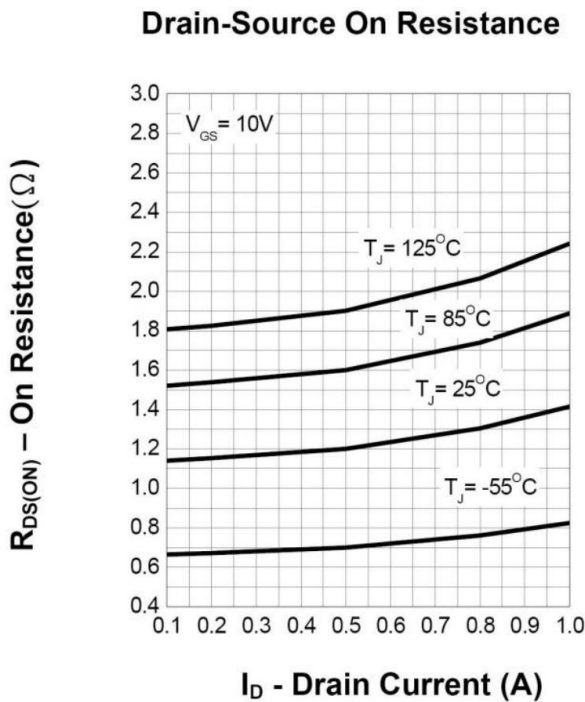
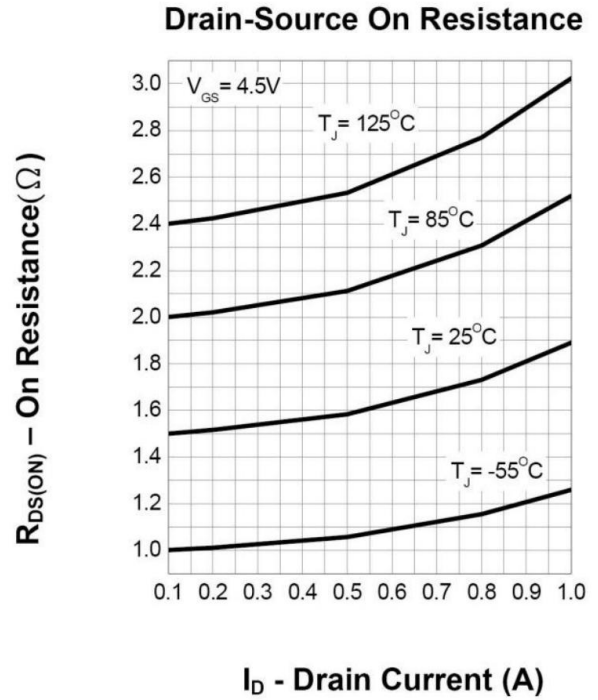
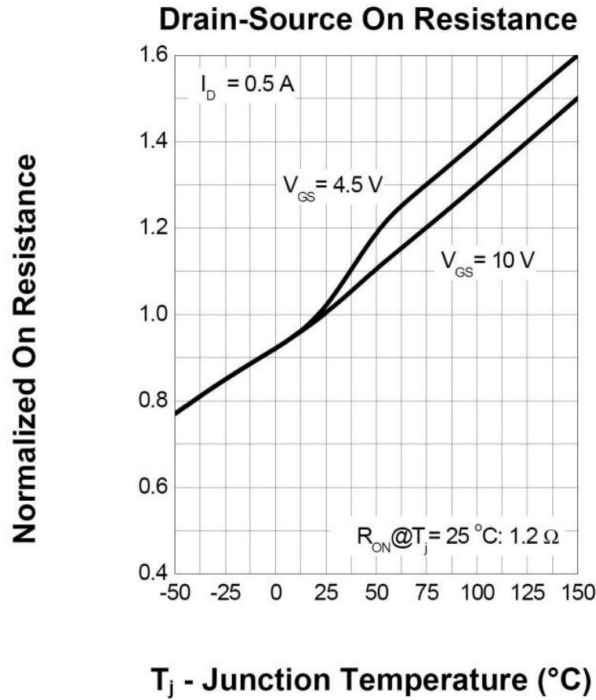
Electrical Characteristic Curve



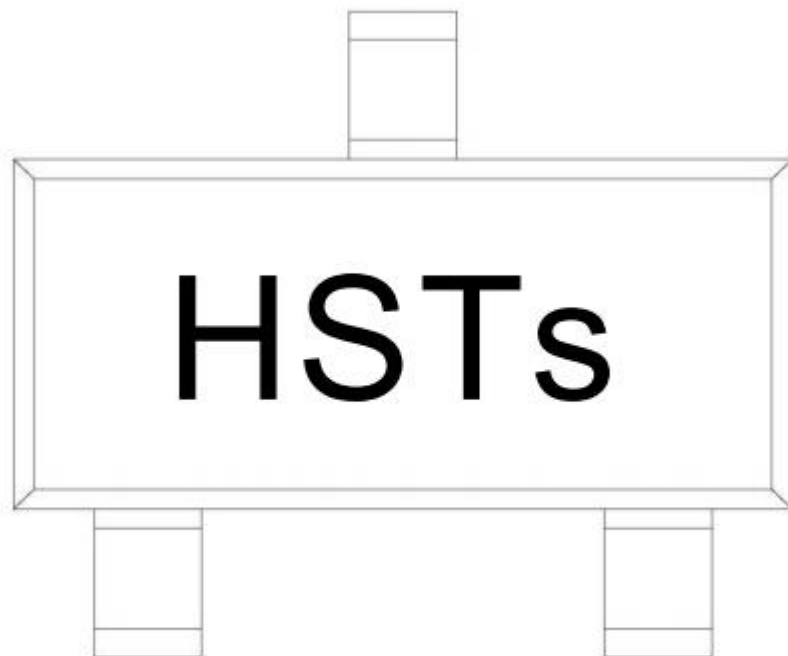
Electrical Characteristic Curve



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" x8	180x120x180	390x385x205

Package Outline Dimensions

SOT-23

单位: mm

