

Descriptions

This 50V 200mA N-Channel MOSFET in a SOT-363 Plastic Package.

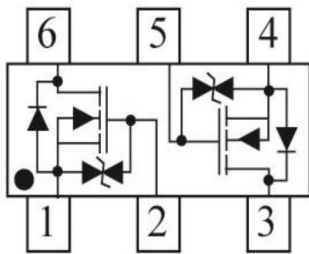
Features

- Low RDS(on),
- Rugged and reliable,
- Compact industry standard SOT-363 surface mount package.
- ESD protected up to 1500V.
- Halogen-free product.

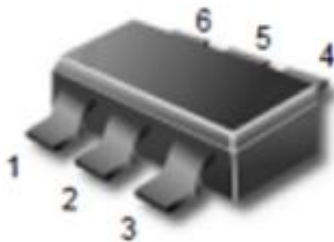
Applications

Typical applications are dc–dc converters, portable power management and battery–Charging products.

Equivalent Circuit



Pinning



PIN1: S1 PIN 2: G1 PIN 3: D2 PIN 4: S2 PIN 5: G2 PIN 6: D1

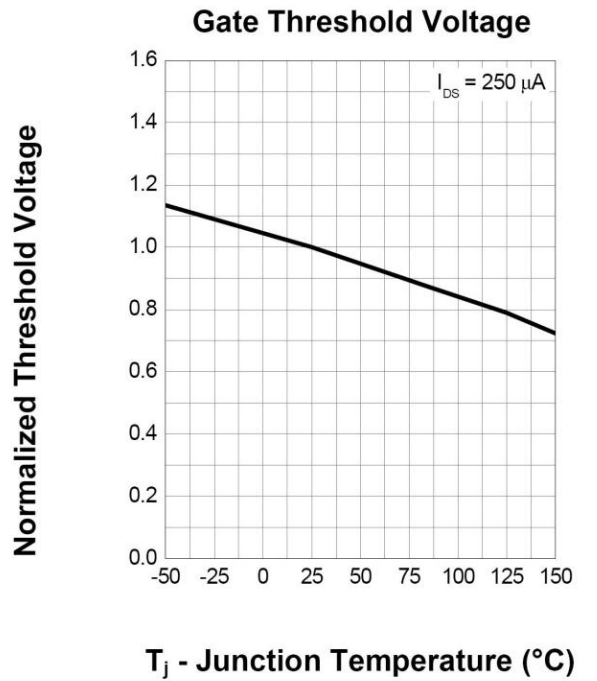
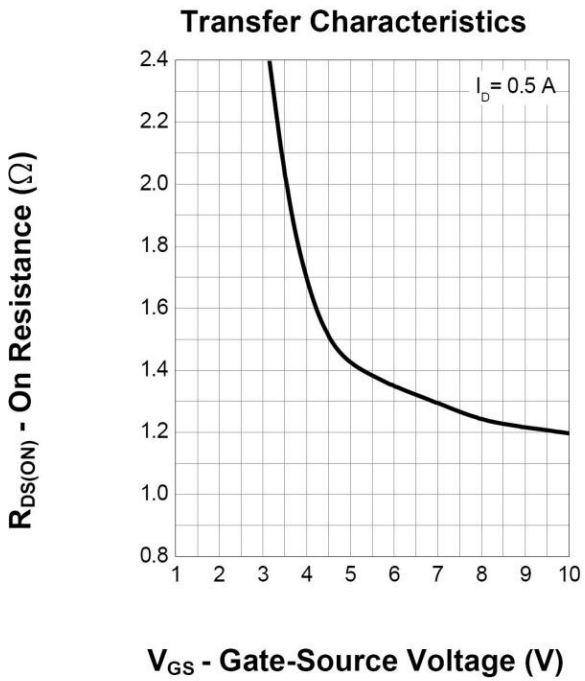
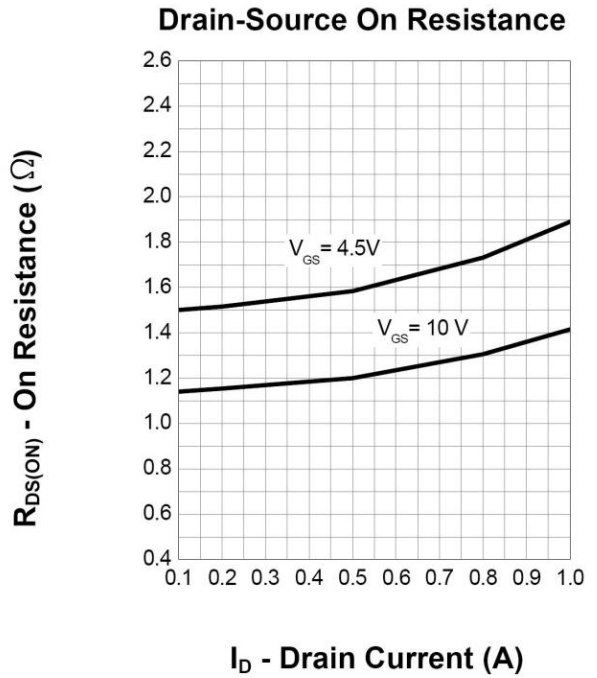
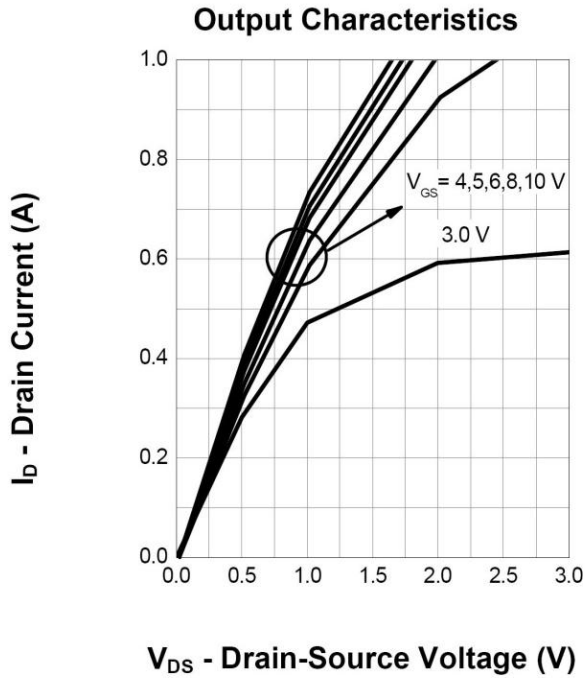
Absolute Maximum Ratings(Ta=25°C)

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	380	mW
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	328	°C/W
Storage Temperature Range	T_{stg}	-55~150	°C

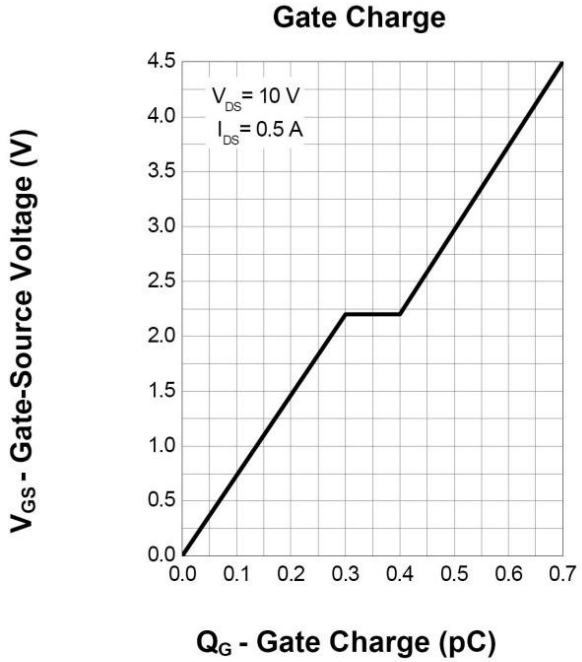
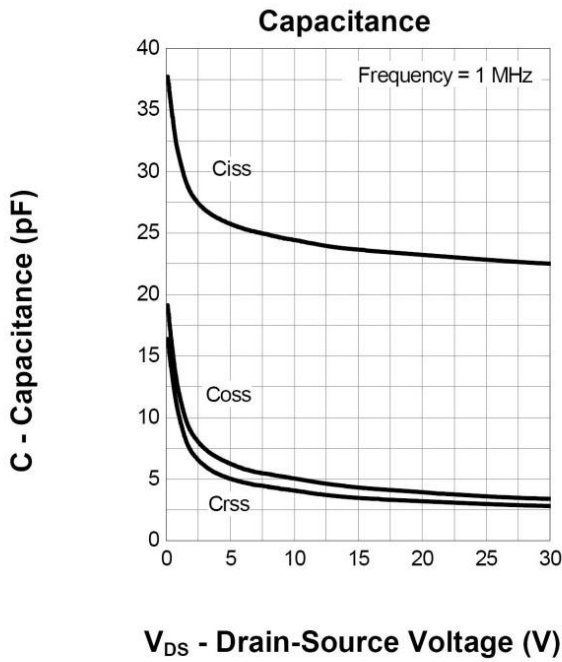
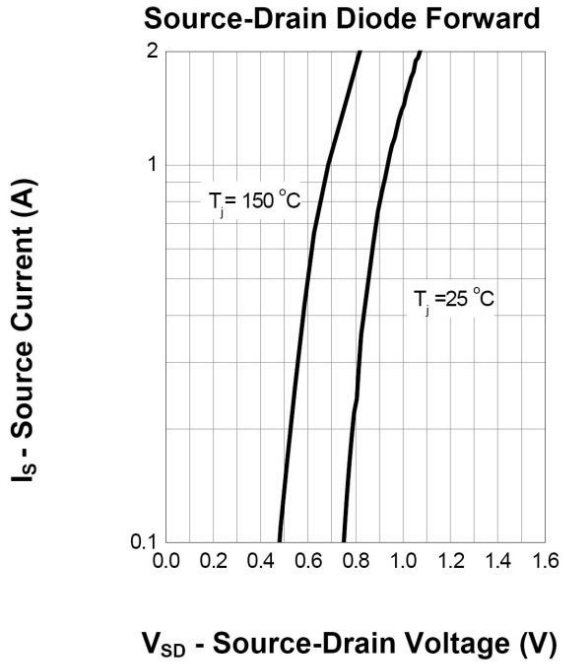
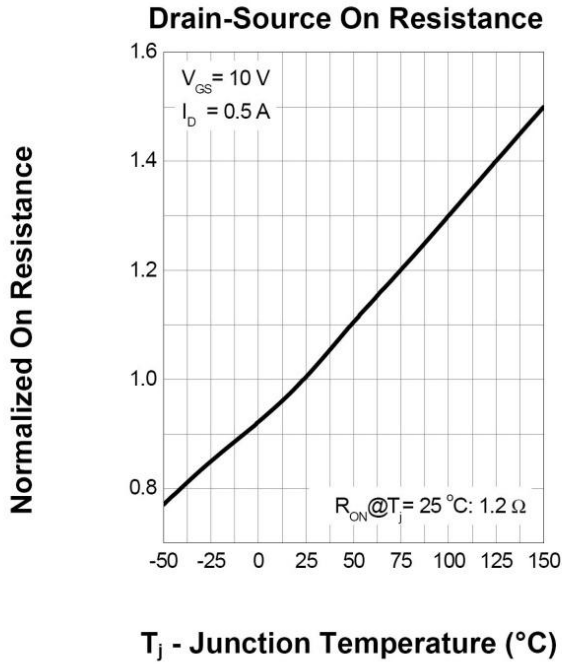
Electrical Characteristics(Ta=25°C)

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

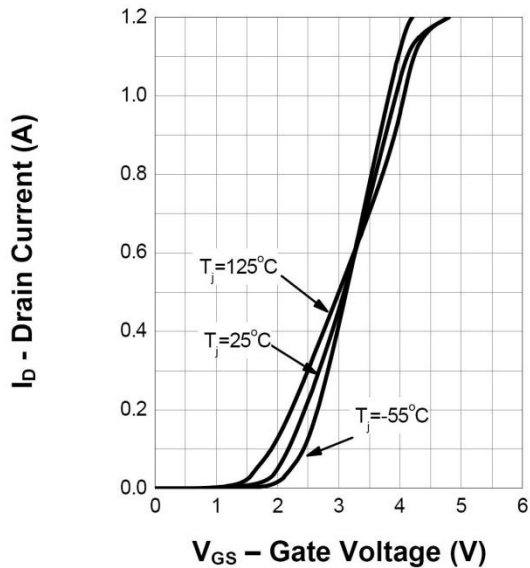
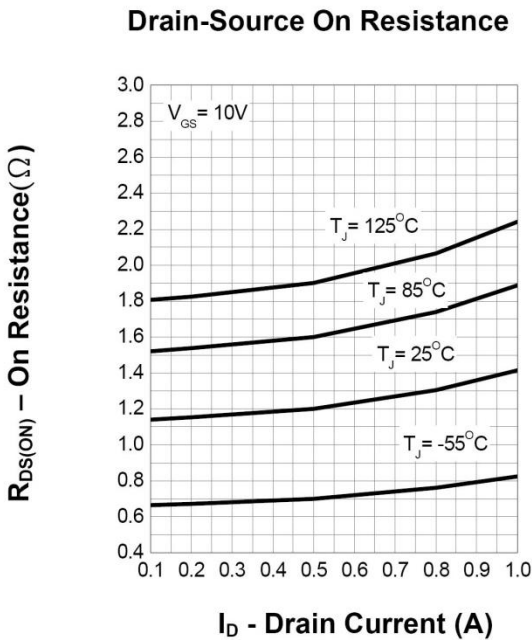
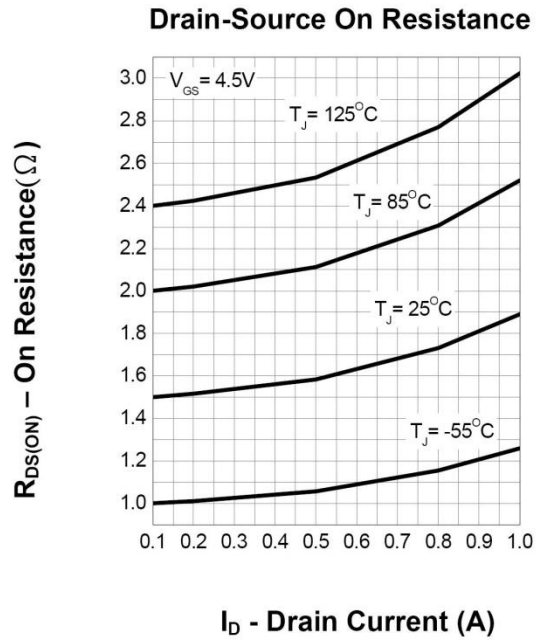
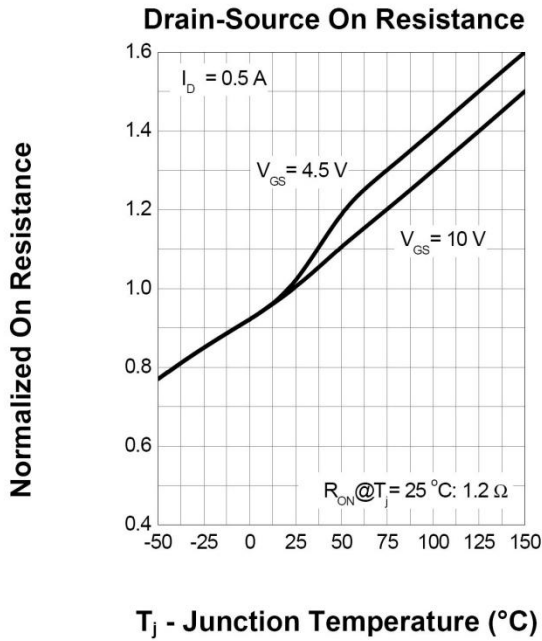
Electrical Characteristic Curve



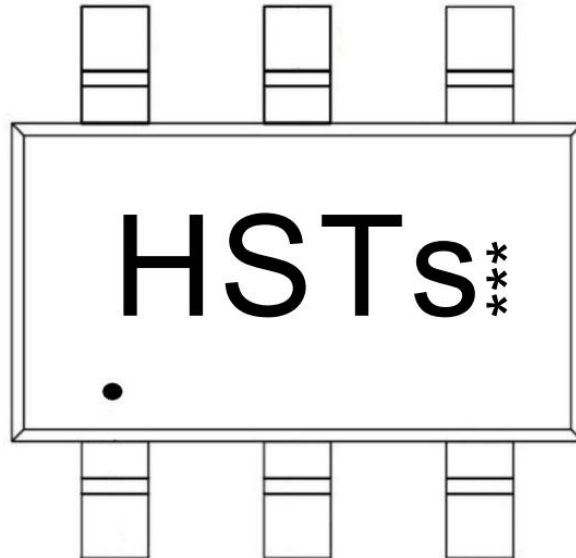
Electrical Characteristic Curve



Electrical Characteristic Curve



Marking Instructions



Note:

- : "1" Pin
- H: Company Code.
- STs: Product Type.
- ***: Lot No. Code, code change with Lot No.

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-363	3,000	10	30,000	6	180,000	7" x8	180×120×180	390×385×205

Package Outline Dimensions

