/ Descriptions

SOT-363 N MOS

N-CHANNEL MOSFET in a SOT-363 Plastic Package.

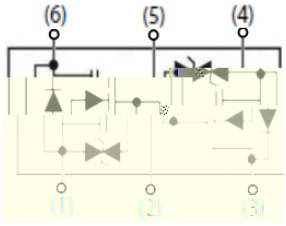
/ Features

Advanced trench cell design and High speed switch,ESD protected diode, HF Product.

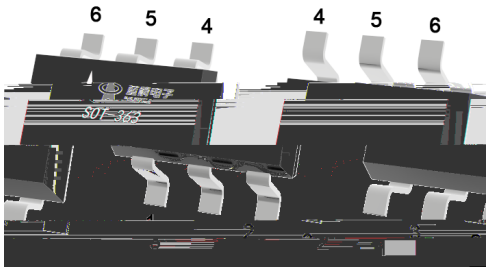
/ Applications

Typical applications are portable appliances and Load switch appliances.

/ Equivalent Circuit



/ Pinning



PIN1 4 S PIN 2 5 G PIN 3 6 D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	±10	V
Drain Current – Continuous	I_D	0.5	A
Peak Drain Current	I_{DM}	2	A
Power Dissipation	P_D	235	mW
StorageTemperatureRange	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–to–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0 I_D = 250uA	20			V
Zero Gate Voltage Drain Current	$I_{DSS(1)}$	V_{GS}=0 V_{DS}=16V			1.0	μA
	$I_{DSS(2)}$	T_J = 85			30	μA
Gate–Body Leakage.	I_{GSS}	V_{DS}=0V V_{GS}=±8			±10	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D = 250 uA	0.5	0.65	1.0	V
Static Drain–SourceOn–Resistance [a]	$R_{DS(on)(1)}$	V_{GS}=4.5V I_D=0.5A		0.25	0.4	Ω
	$R_{DS(on)(2)}$	V_{GS}=2.5V I_D=0.2A		0.35	0.65	Ω
	$R_{DS(on)(3)}$	V_{GS}=1.8V I_D=0.1A		0.4	0.8	Ω
	$R_{DS(on)(4)}$	V_{GS}=1.5V I_D=0.05A		0.5		Ω
	$R_{DS(on)(5)}$	V_{GS}=1.2V I_D=0.02A		1.0		Ω
Diode Forward Voltage	V_{SD}	I_{SD} = 0.5 A V_{GS} = 0 V		0.7	1.3	V
Input Capacitance	C_{iss}	V_{DS}=10V V_{GS}=0V f=1.0MHz		105		pF
Output Capacitance	C_{oss}			65		
Reverse Transfer Capacitance	C_{rss}			20		
Total Gate Charge	Q_g	V_{GS}=4.5V, V_{DS}=10V, I_D=0.4A		0.85		nC
Gate Source Charge	Q_{gs}			0.1		
Gate Drain Charge	Q_{gd}			0.25		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=4.5V V_{DS}=10V R_L=25Ω R_{GEN}=3Ω		2		ns
Turn-On Rise Time	t_r			4		
Turn-Off Delay Time	$t_{d(off)}$			18		
Turn-Off Fall Time	t_f			8		

/ Electrical Characteristic Curve

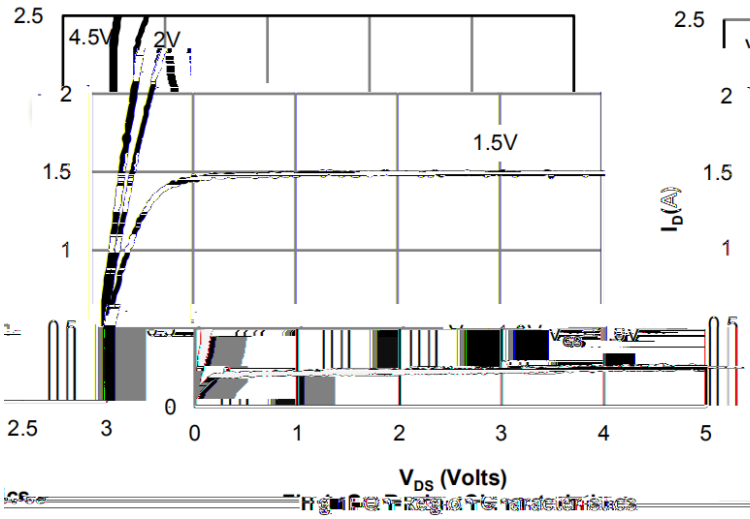


Figure 1: Output Characteristics

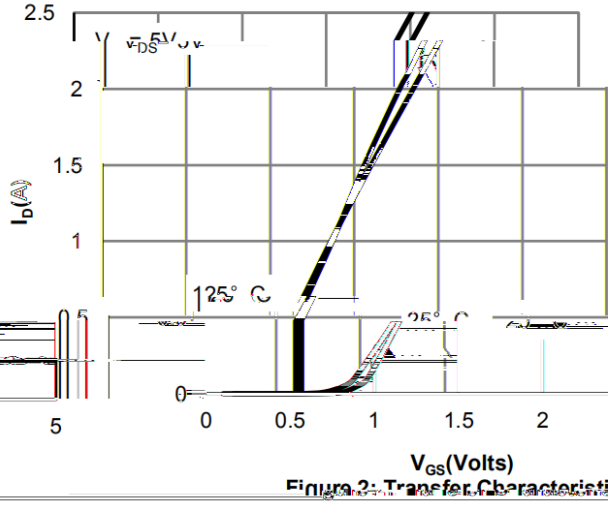


Figure 2: Transfer Characteristics

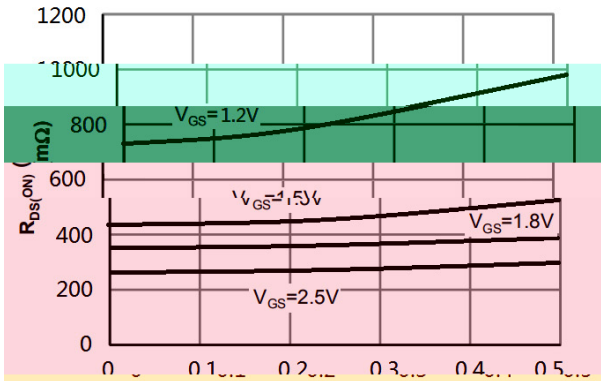


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

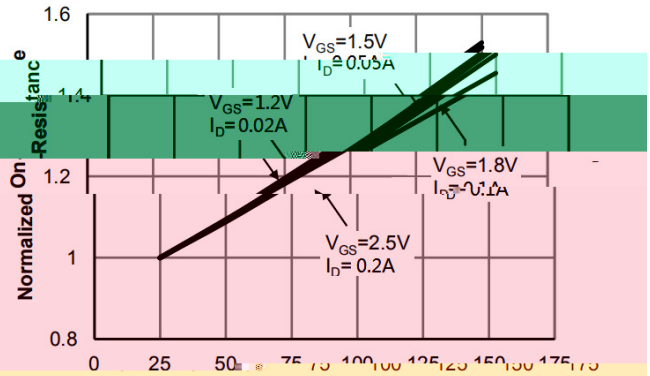


Figure 4: On-Resistance Variation with Temperature

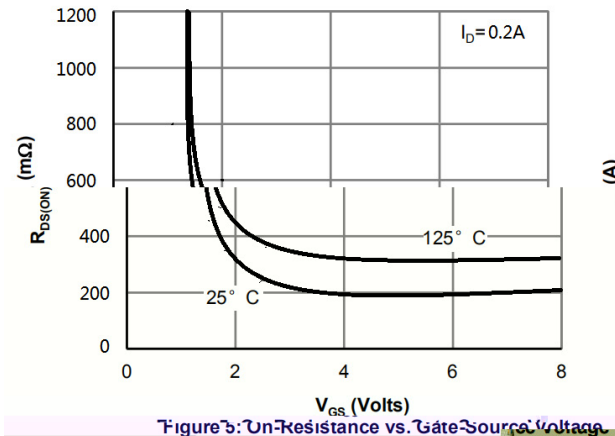


Figure 5: On-Resistance vs. Gate-Source Voltage

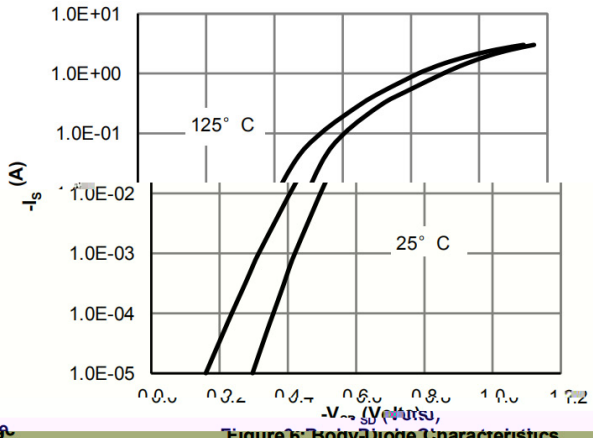


Figure 6: Body-Diode Characteristics

/ Electrical Characteristic Curve

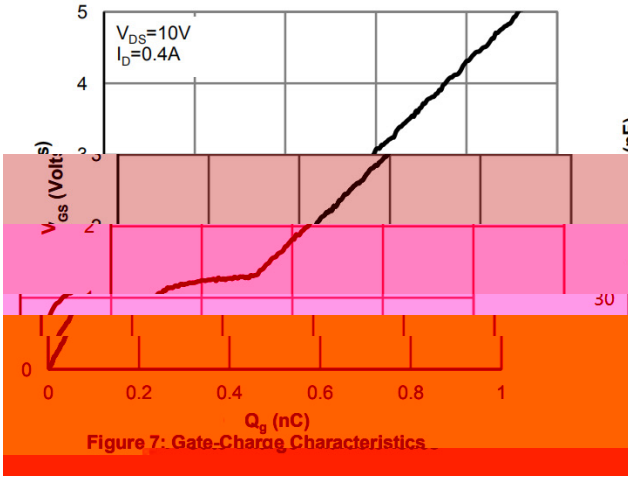


Figure 7: Gate-Charge Characteristics

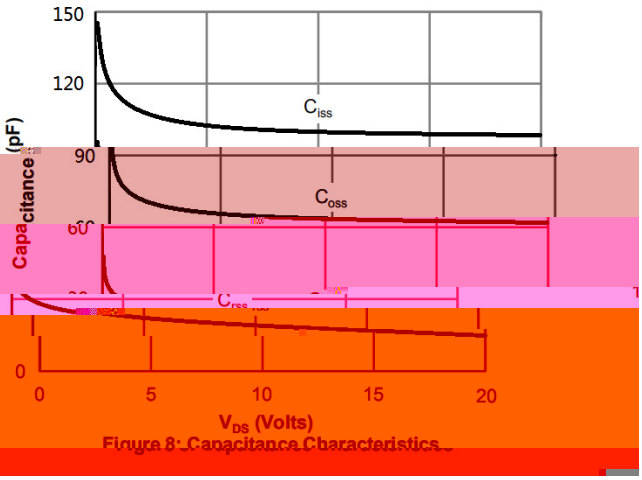
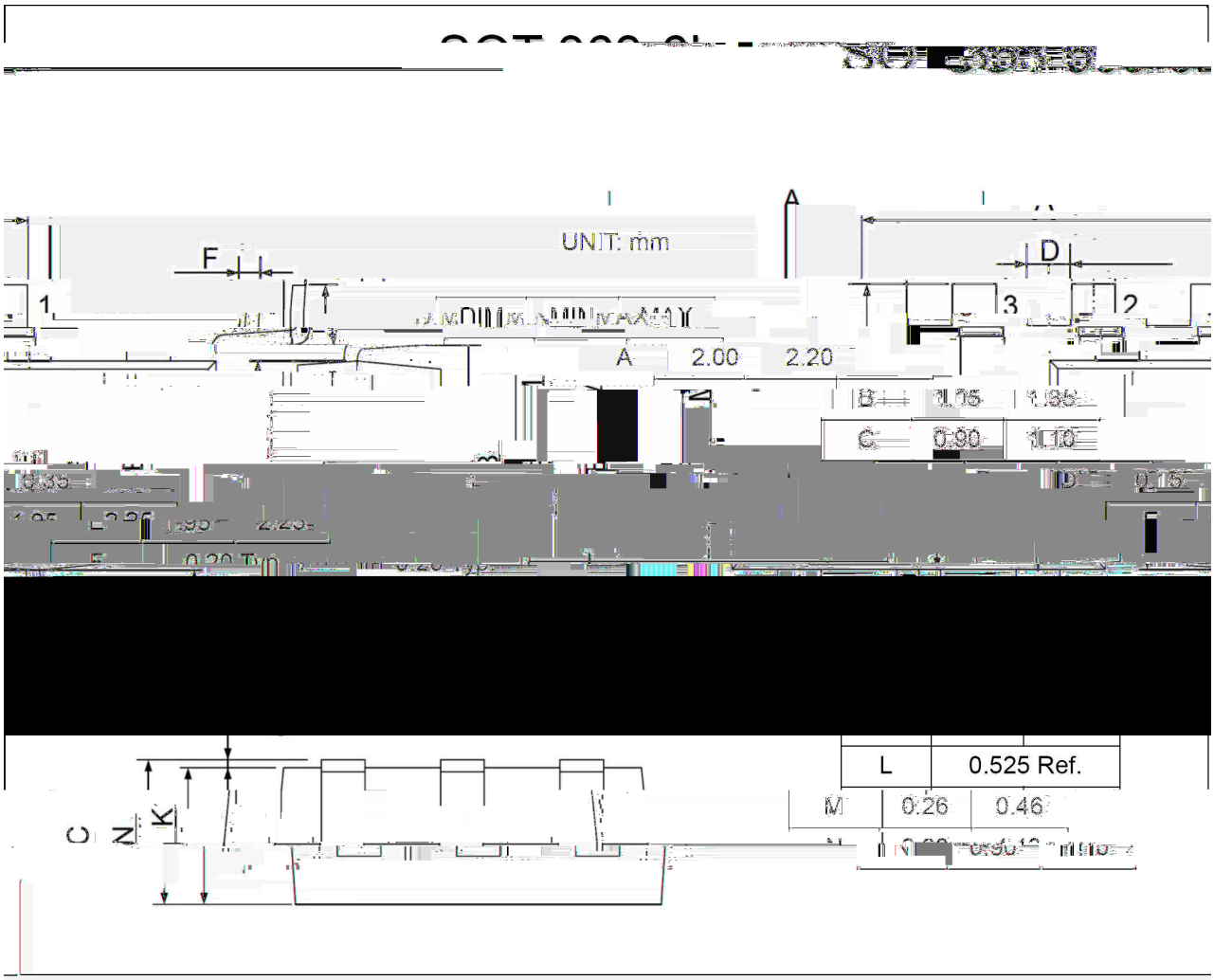
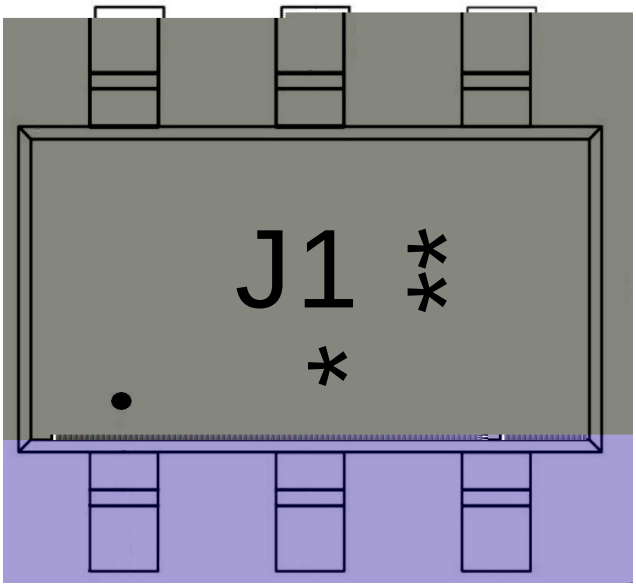


Figure 8: Capacitance Characteristics

/ Package Dimensions



/ Marking Instructions



● “ 1 ”

J1

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Note:

● “ 1 ” Pin

J1: Product Type Code

***: Lot No. Code, code change with Lot No