

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

### DESCRIPTION

Typical applications are dc-dc converters, power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

**SOT-363**

### FEATURES

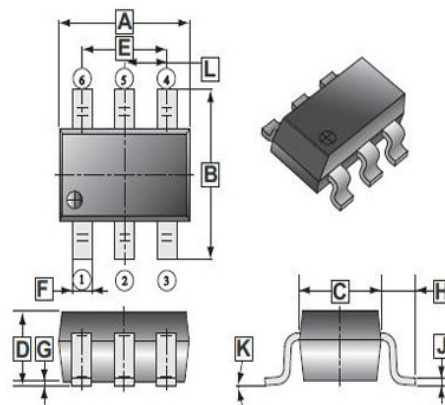
- Lower Gate Charge
- Small Package Outline

### MARKING

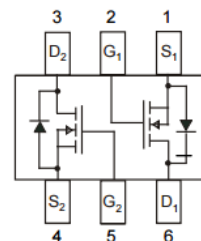
J1

### PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 inch



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.00	2.20	G	0.100	REF.
B	2.15	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.15
D	0.90	1.10	K	8°	
E	1.20	1.40	L	0.650 TYP.	
F	0.15	0.35			



### ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	$V_{DS}$	50	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	200	mA
Pulsed Drain Current ( $t_p \leq 10\mu\text{s}$ )	$I_{DM}$	800	mA
Power Dissipation	$P_D$	380	mW
Maximum Junction-to-Ambient	$R_{\theta JA}$	328	$^\circ\text{C} / \text{W}$
Maximum Lead Temperature for Soldering Purposes, for 10 seconds	$T_L$	260	$^\circ\text{C}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

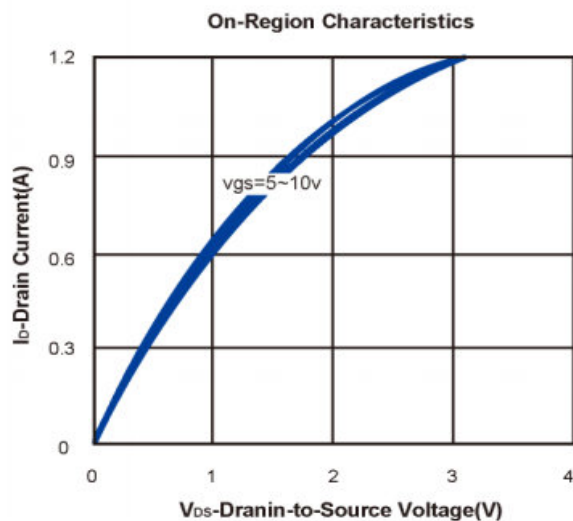
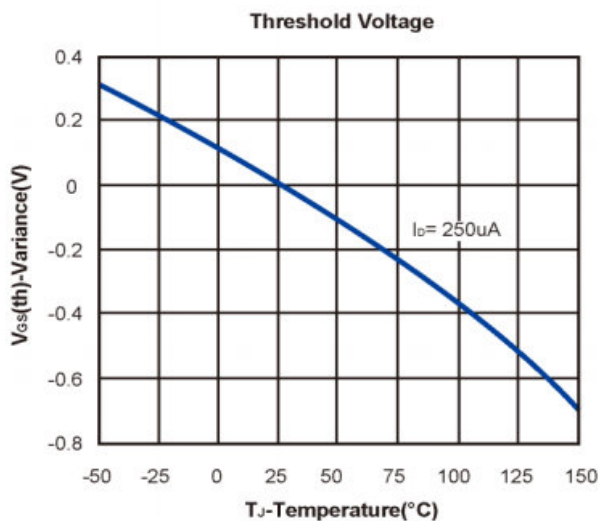
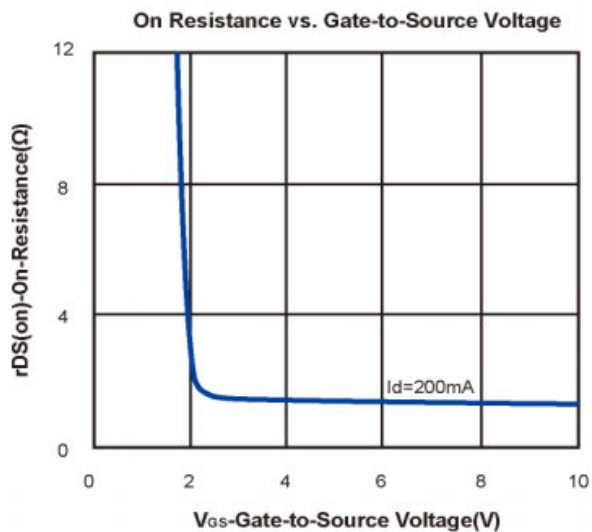
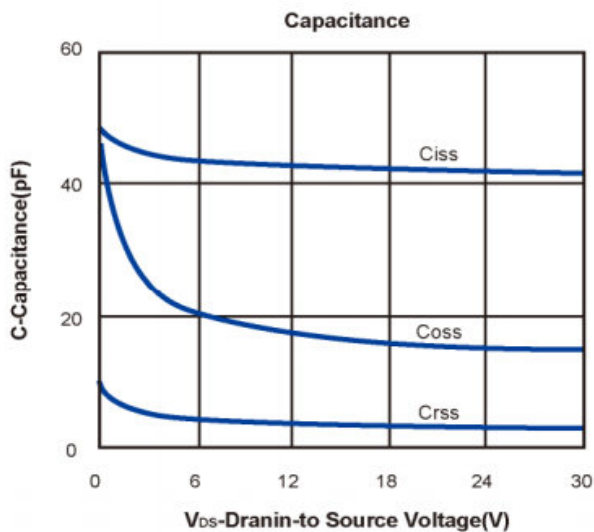
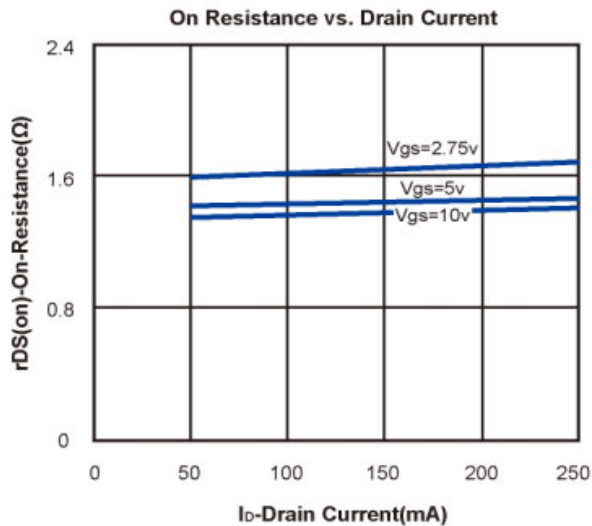
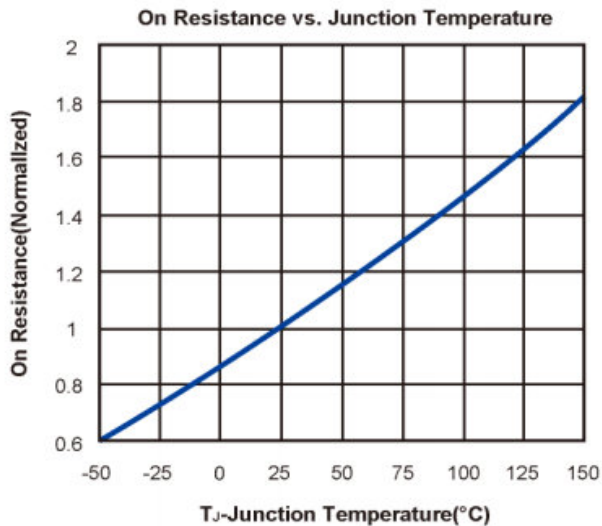
**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
<b>Static</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	50	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$
Gate-Body Leakage Current	$I_{GSS}$	-	-	$\pm 100$	nA	$V_{GS}=\pm 20\text{V}, V_{DS}=0$
Drain-Source Leakage Current	$I_{DSS}$	-	-	0.1	$\mu\text{A}$	$V_{DS}=25\text{V}, V_{GS}=0$
		-	-	0.5		$V_{DS}=50\text{V}, V_{GS}=0$
Gate-Threshold Voltage <sup>1</sup>	$V_{GS(th)}$	0.5	-	1.5	V	$V_{DS}=V_{GS}, I_D=1\text{mA}$
Drain-Source On-Resistance <sup>1</sup>	$R_{DS(ON)}$	-	5.6	10	$\Omega$	$V_{GS}=2.75\text{V}, I_D<200\text{mA},$ $T_A=-40^\circ\text{C} \sim 85^\circ\text{C}$
		-	-	3.5		$V_{GS}=5\text{V}, I_D=200\text{mA}$
<b>Switch <sup>2</sup></b>						
Turn-on Delay Time	$T_{d(on)}$	-	5	-	nS	$V_{DD}=30\text{V},$ $I_D=200\text{mA}$
Turn-off Delay Time	$T_{d(off)}$	-	7	-		
<b>Dynamic</b>						
Input Capacitance	$C_{iss}$	-	42	-	pF	$V_{GS}=0,$ $V_{DS}=25\text{V},$ $f=1.0\text{MHz}$
Output Capacitance	$C_{oss}$	-	15	-		
Reverse Transfer Capacitance	$C_{rss}$	-	3	-		

Notes:

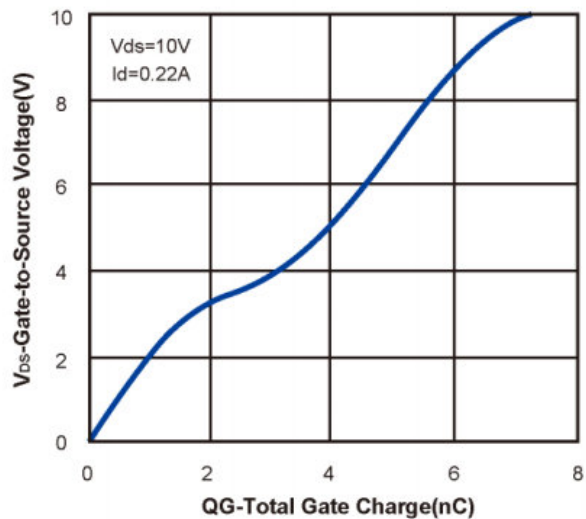
1. Pulse Test: Pulse Width  $\leq 300 \mu\text{s}$ , Duty Cycle  $\leq 2\%$ .
2. Switching characteristics are independent of operating junction temperature.

**CHARACTERISTIC CURVE**



**CHARACTERISTIC CURVE**

Gate Charge



Body-diode characteristics

