

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

FEATURES

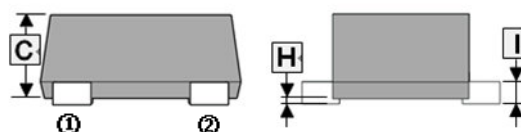
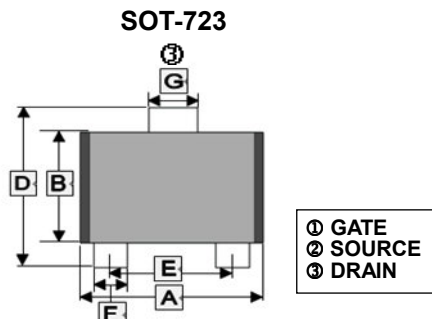
- 30V/350mA
- $R_{DS(ON)} \leq 0.7\Omega @ V_{GS}=4.5V$
- $R_{DS(ON)} \leq 1\Omega @ V_{GS}=2.5V$
- $R_{DS(ON)} \leq 1.6\Omega @ V_{GS}=1.8V$
- $R_{DS(ON)} \leq 5\Omega @ V_{GS}=1.5V$
- Reliable and Rugged
- Green Device Available
- ESD Protection

MARKING

E35

PACKAGE INFORMATION

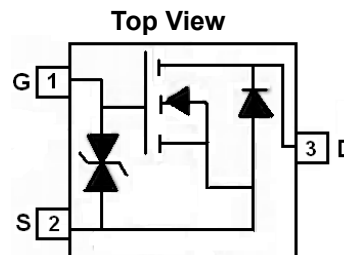
Package	MPQ	Leader Size
SOT-723	8K	7 inch



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.150	1.250	F	0.170	0.270
B	0.750	0.850	G	0.270	0.370
C	-	0.500	H	0	0.050
D	1.150	1.250	I	-	0.150
E	0.800TYP.				

ORDER INFORMATION

Part Number	Type
SSN30K35NE-C	Lead (Pb)-free and Halogen-free



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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	$T_A=25^\circ\text{C}$	0.35
		$T_A=70^\circ\text{C}$	0.285
Pulsed Drain Current ¹	I_{DM}	1	A
Total Power Dissipation	P_D	150	mW
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$
Thermal Resistance Ratings			
Thermal Resistance Junction-ambient ²	$R_{\theta JA}$	833	$^\circ\text{C} / \text{W}$

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

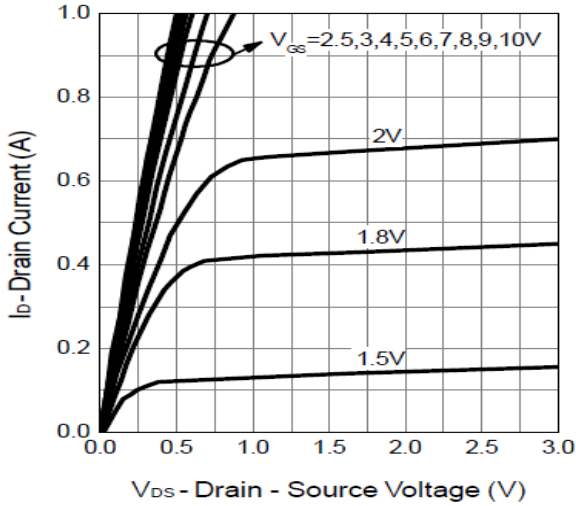
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	30	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$
Gate Threshold Voltage	$V_{GS(th)}$	0.6	-	1.3	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Gate-Body Leakage Current	I_{GSS}	-	-	± 10	μA	$V_{DS}=0, V_{GS}=\pm 12\text{V}$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	$V_{DS}=24\text{V}, V_{GS}=0, T_J=25^\circ\text{C}$
		-	-	30		$V_{DS}=24\text{V}, V_{GS}=0, T_J=85^\circ\text{C}$
Drain-Source On-Resistance ³	$R_{DS(ON)}$	-	-	0.7	Ω	$V_{GS}=4.5\text{V}, I_D=100\text{mA}$
		-	-	1		$V_{GS}=2.5\text{V}, I_D=50\text{mA}$
		-	-	1.6		$V_{GS}=1.8\text{V}, I_D=20\text{mA}$
		-	-	5		$V_{GS}=1.5\text{V}, I_D=10\text{mA}$
Total Gate Charge	Q_g	-	0.74	-	nC	$I_{DS}=1\text{A},$ $V_{DS}=15\text{V},$ $V_{GS}=4.5\text{V}$
Gate-Source Charge	Q_{gs}	-	0.44	-		
Gate-Drain ("Miller") Charge	Q_{gd}	-	0.1	-		
Turn-On Delay Time	$T_{d(on)}$	-	1.4	-	nS	$V_{DD}=15\text{V},$ $I_{DS}=0.33\text{A},$ $V_{GS}=10\text{V},$ $R_{GEN}=6\Omega$
Rise Time	T_r	-	9.9	-		
Turn-Off Delay Time	$T_{d(off)}$	-	10.6	-		
Fall Time	T_f	-	2.3	-		
Input Capacitance	C_{iss}	-	28	-	pF	$V_{GS}=0\text{V},$ $V_{DS}=15\text{V},$ $f=1\text{MHz}$
Output Capacitance	C_{oss}	-	8	-		
Reverse Transfer Capacitance	C_{rss}	-	3	-		
Source-Drain Diode						
Continuous Source Current	I_S	-	-	0.25	A	
Pulsed Source Current ¹	I_{SM}	-	-	1	A	
Diode Forward Voltage ³	V_{SD}	-	-	1.3	V	$I_S=250\text{mA}, V_{GS}=0\text{V}$
Reverse Recovery Time	t_{rr}	-	8.2	-	nS	$I_F=1\text{A}, dI/dt=100\text{A}/\mu\text{s},$ $T_J=25^\circ\text{C}$
Reverse Recovery Charge	Q_{rr}	-	2.5	-	nC	

Notes:

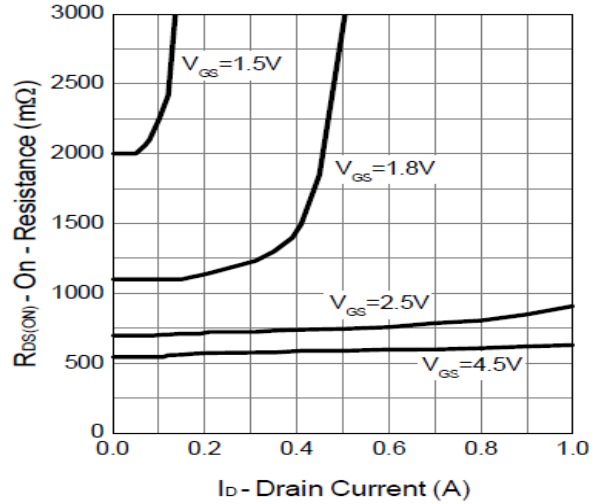
1. Pulse width limited by maximum junction temperature., $P_w \leq 10\mu\text{s}$, Duty cycle $\leq 1\%$
2. Surface mounted on FR4 Board using the minimum recommended pad size
3. The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

TYPICAL CHARACTERISTICS

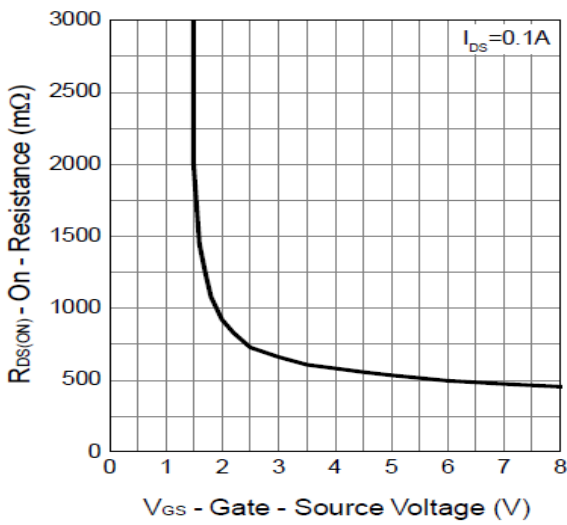
Output Characteristics



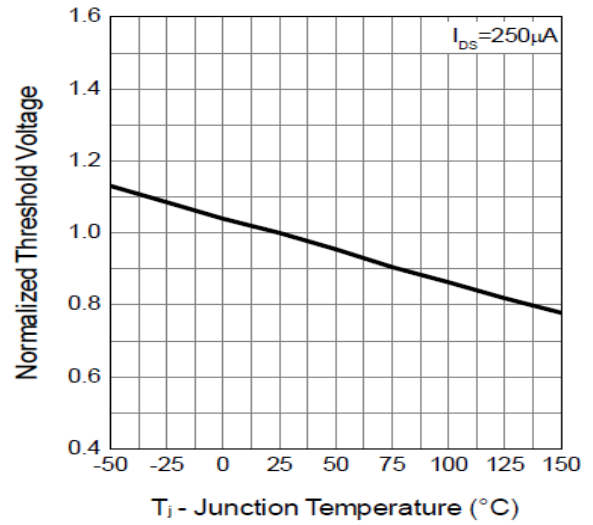
Drain-Source On Resistance



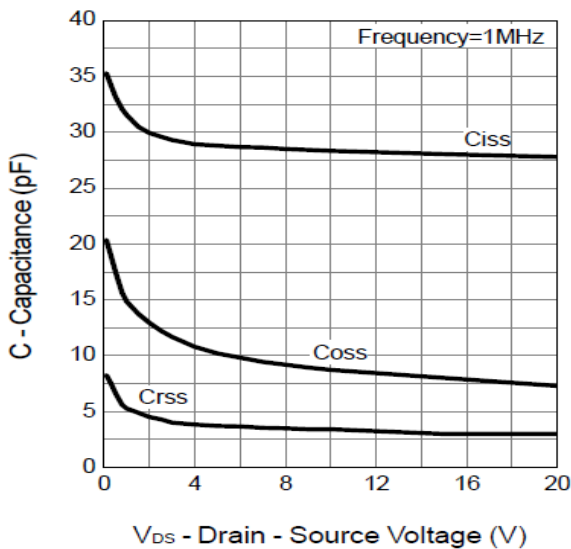
Gate-Source On Resistance



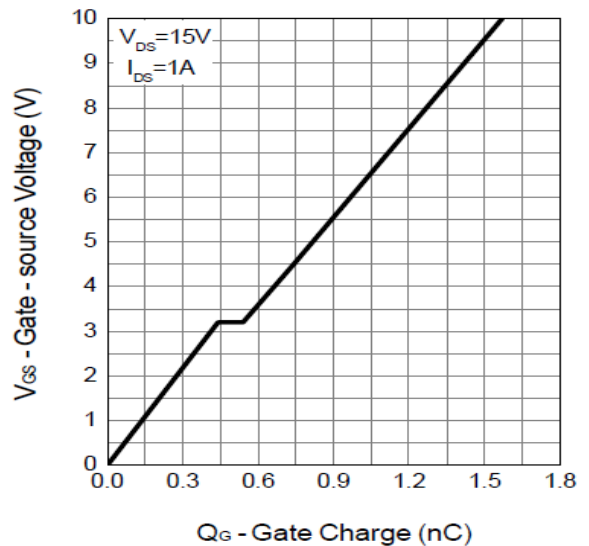
Gate Threshold Voltage



Capacitance

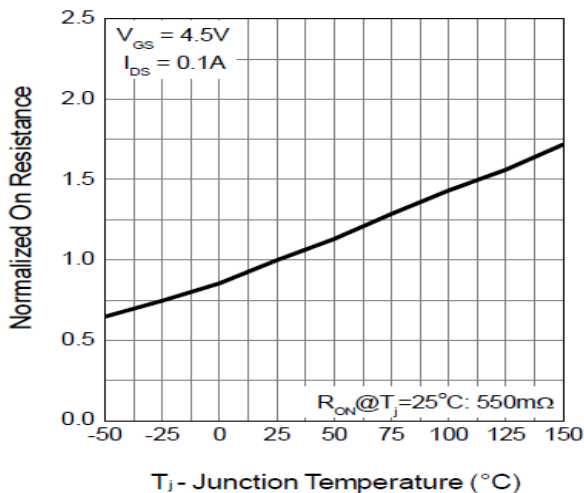


Gate Charge

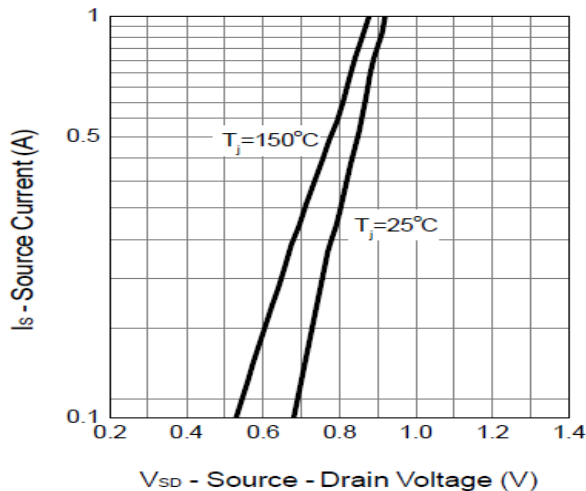


TYPICAL CHARACTERISTICS

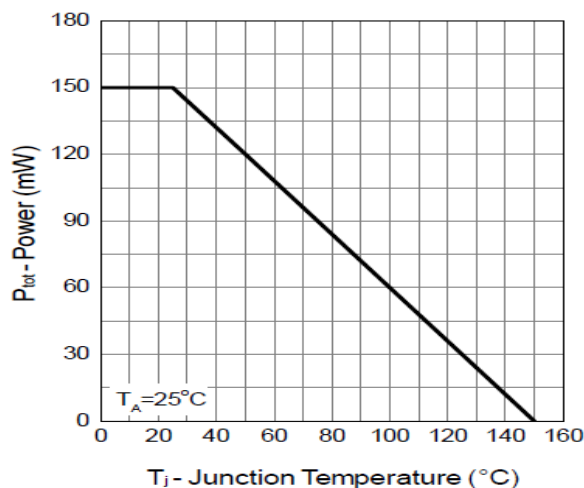
Drain-Source On Resistance



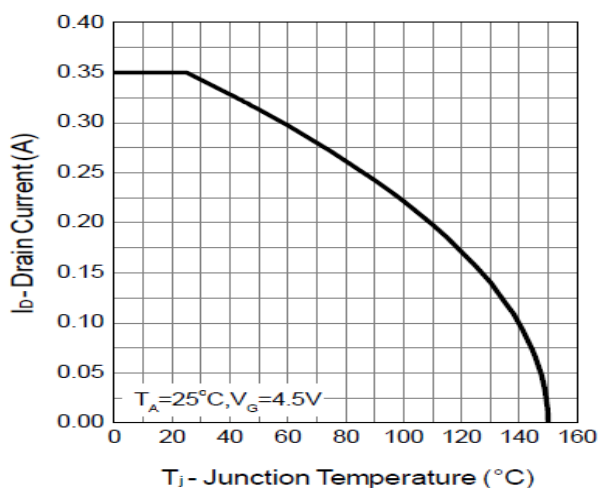
Source-Drain Diode Forward



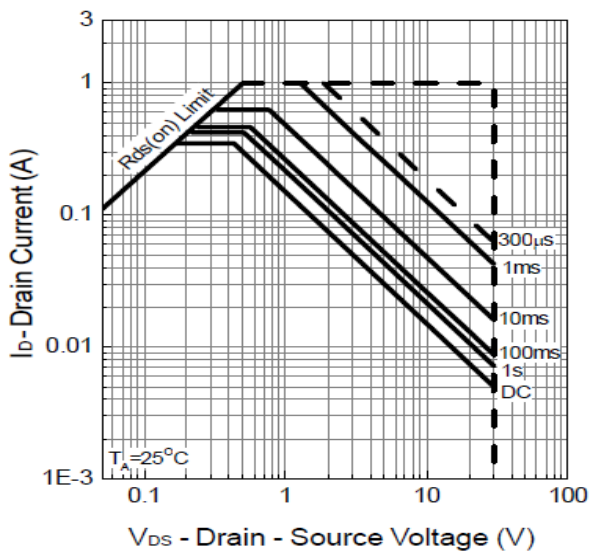
Power Dissipation



Drain Current



Safe Operation Area



Thermal Transient Impedance

