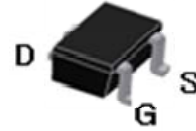


N-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV _{DSS}	100V
R _{DS(on)} (MAX.)	220mΩ
I _D	1.4A



UIS 100% Tested

Pb-Free Lead Plating & Halogen Free



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current	T _A = 25 °C	I _D	1.4	A
	T _A = 100 °C		0.85	
Pulsed Drain Current ¹		I _{DM}	5.6	
Power Dissipation	T _A = 25 °C	P _D	1.25	W
	T _A = 100 °C		0.8	
Operating Junction & Storage Temperature Range		T _j , T _{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to- Ambient	R _{θJA}		100	°C / W

¹Pulse width limited by maximum junction temperature.

²Duty cycle ≤ 1%

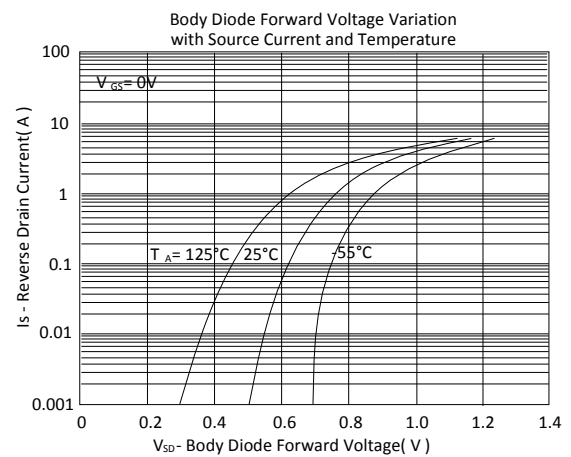
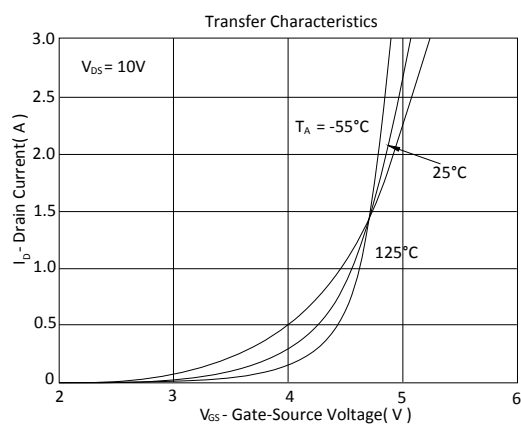
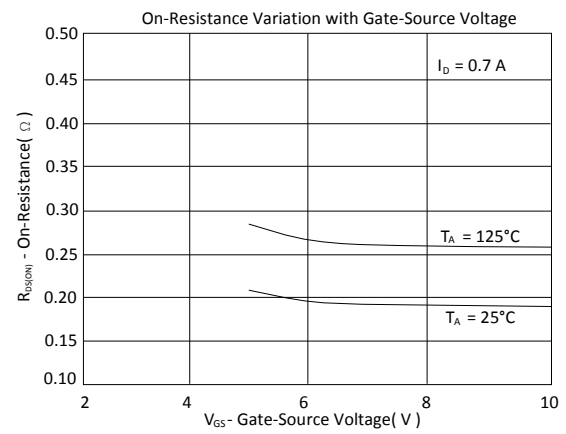
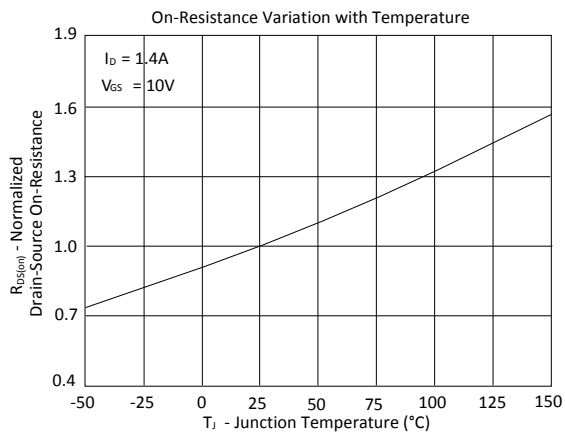
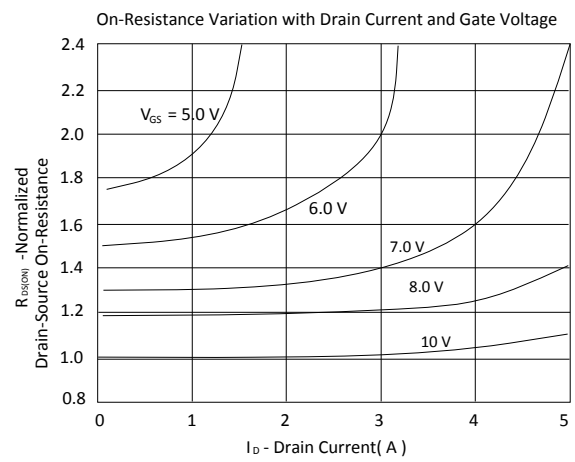
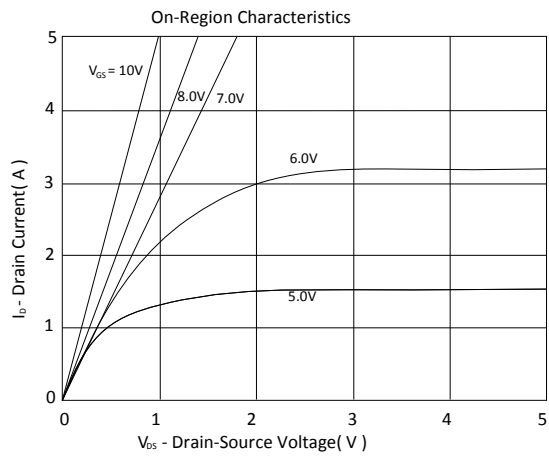
ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$, Unless Otherwise Noted)

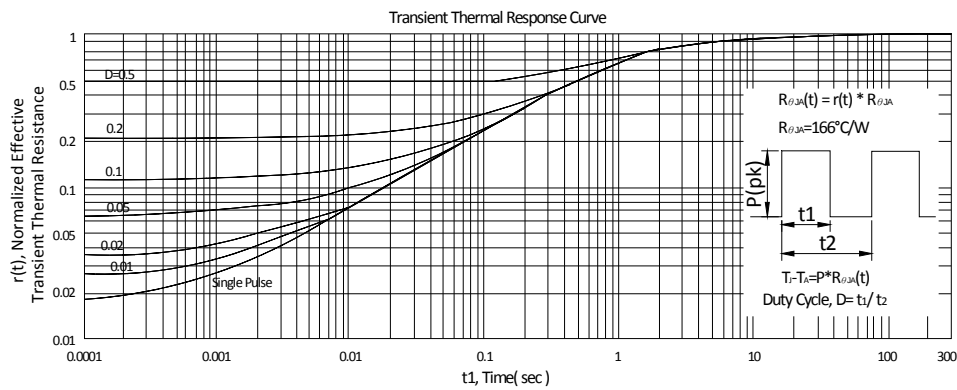
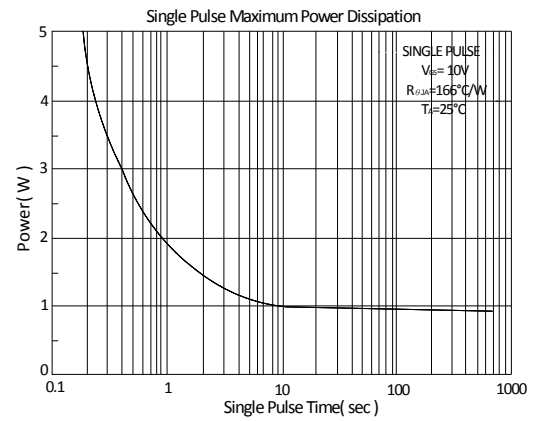
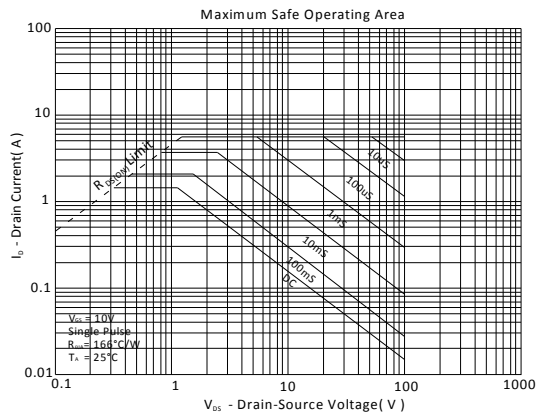
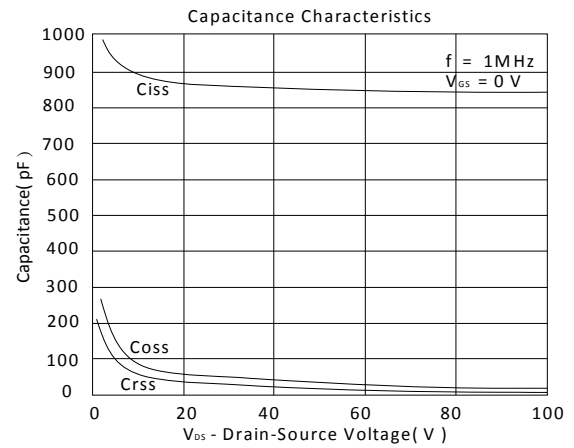
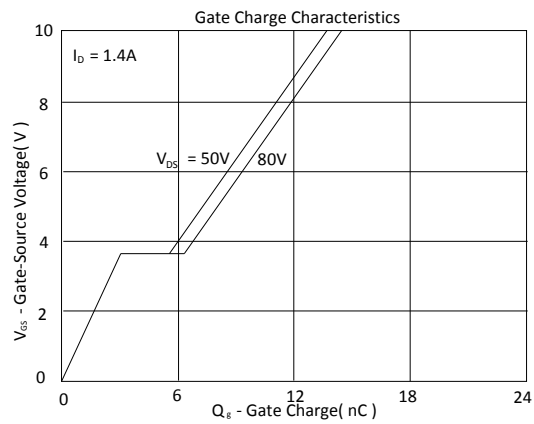
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.5	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 70V, V_{GS} = 0V, T_J = 125\text{ }^{\circ}C$			25	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	1.4			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 1.4A$		185	220	m Ω
		$V_{GS} = 5V, I_D = 0.5A$		205	250	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 1.4A$		4		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 50V, f = 1MHz$		858		pF
Output Capacitance	C_{oss}			38		
Reverse Transfer Capacitance	C_{rss}			27		
Total Gate Charge ^{1,2}	Q_g	$V_{DS} = 15V, V_{GS} = 10V,$ $I_D = 1.4A$		14.3		nC
Gate-Source Charge ^{1,2}	Q_{gs}			2.9		
Gate-Drain Charge ^{1,2}	Q_{gd}			3.4		
Turn-On Delay Time ^{1,2}	$t_{d(on)}$	$V_{DS} = 15V,$ $I_D = 1A, V_{GS} = 10V, R_{GS} = 6\Omega$		20		nS
Rise Time ^{1,2}	t_r			30		
Turn-Off Delay Time ^{1,2}	$t_{d(off)}$			36		
Fall Time ^{1,2}	t_f			30		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_c = 25\text{ }^{\circ}C$)						
Continuous Current	I_S				1.4	A
Pulsed Current ³	I_{SM}				5.6	
Forward Voltage ¹	V_{SD}	$I_F = I_S, V_{GS} = 0V$			1.2	V
Reverse Recovery Time	t_{rr}			50		nS
Reverse Recovery Charge	Q_{rr}			90		nC

¹Pulse test : Pulse Width $\leq 300\text{ }\mu\text{sec}$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

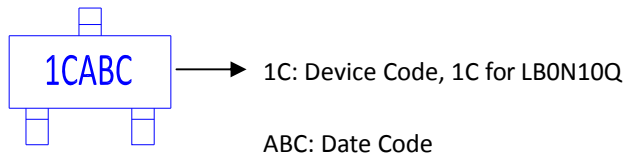
³Pulse width limited by maximum junction temperature.



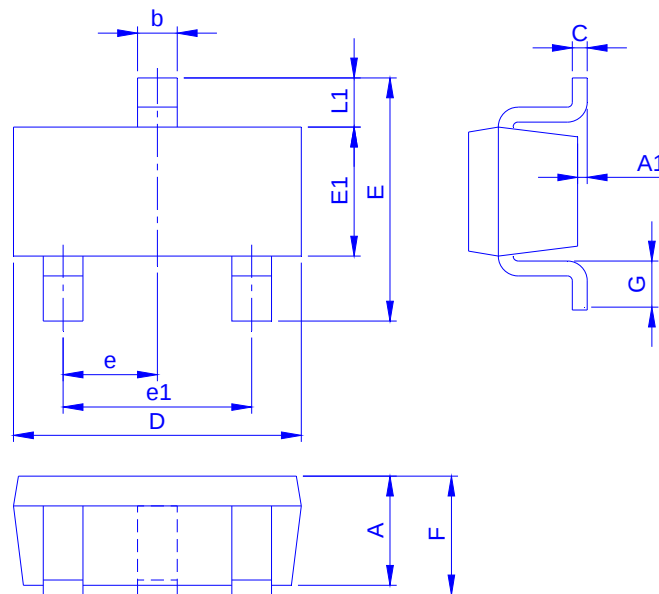


Ordering & Marking Information:

Device Name: LB0N10Q for SOT-23



Outline Drawing



Dimension in mm

Dimension	A	A1	A2	b	C	D	E	E1	e	e1	F	G	L1
Min.	0.7	0		0.35	0.1	2.8	2.6	1.5	0.9		0.8	0.3	0.55
Typ.						2.9	2.8	1.6	0.95	1.9			
Max.	1.12	0.1		0.5	0.2	3	3	1.7	1		1.2	0.6	0.65

Footprint

