Features
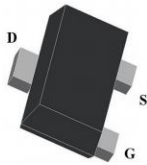
- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for portable equipment
- Easily designed drive circuits
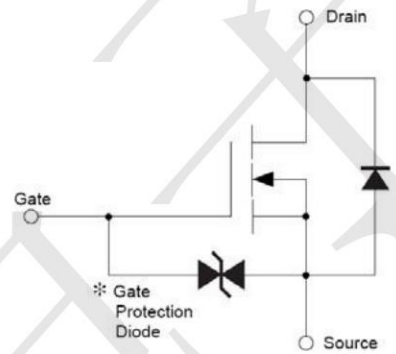- Easy to parallel

Application

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Package and Pin Configuration

SOT723

Circuit diagram

Marking:DQ

Absolute Maximum Ratings (T$_A$=25°C unless otherwise noted)

| Symbol	Parameter	Value	Units
V$_{DS}$	Drain-Source Voltage	30	V
V$_{GSS}$	Gate-Source Voltage	±20	V
I$_D$	Continuous Drain Current	0.1	A
R$_{θJA}$	Thermal Resistance, Junction-to-Ambient	833	°C /W
P$_D$	Power Dissipation	0.2	W
T$_J$	Junction Temperature	150	°C
T$_{stg}$	Storage Temperature	-55~+150	°C

Electrical Characteristics (T_A = 25°C unless otherwise noted)

| Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	V_{DS}	V_{GS} = 0V, I_D = 10µA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =30V, V_{GS} = 0V			1	µA
Gate –Source leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±2	µA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = 3V, I_D =100µA	0.8		1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 4V, I_D =10mA			8	Ω
		V_{GS} =2.5V, I_D =1mA			13	Ω
Forward Transconductance	g_{FS}	V_{DS} =3V, I_D = 10mA	20			mS
Dynamic Characteristics*						
Input Capacitance	C_{iss}	V_{DS} =5V, V_{GS} =0V, f =1MHz		13		pF
Output Capacitance	C_{oss}			9		pF
Reverse Transfer Capacitance	C_{rss}			4		pF
Switching Characteristics*						
Turn-On Delay Time	$t_{d(on)}$	V_{GS} =5V, V_{DD} =5V, I_D =10mA, Rg=10Ω, R_L=500Ω,		15		ns
Rise Time	t_r			35		ns
Turn-Off Delay Time	$t_{d(off)}$			80		ns
Fall Time	t_f			80		ns

Typical Characteristics

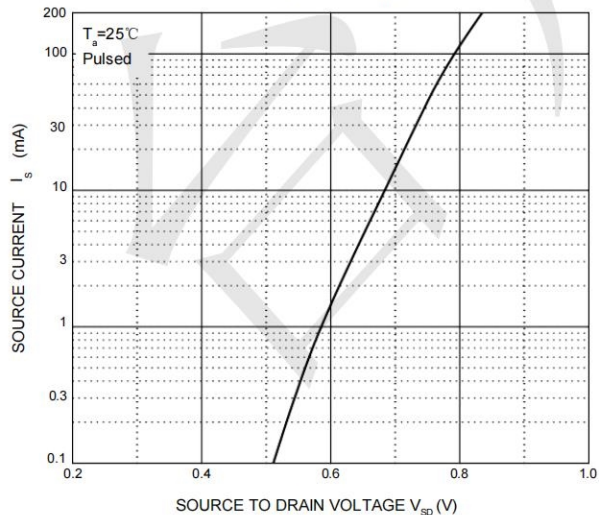### Output Characteristics
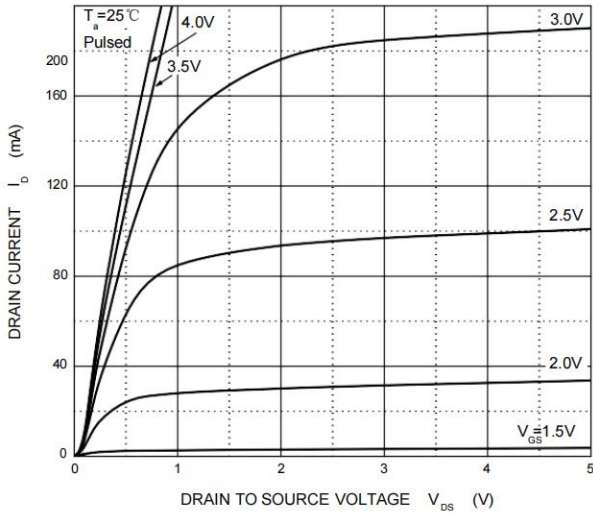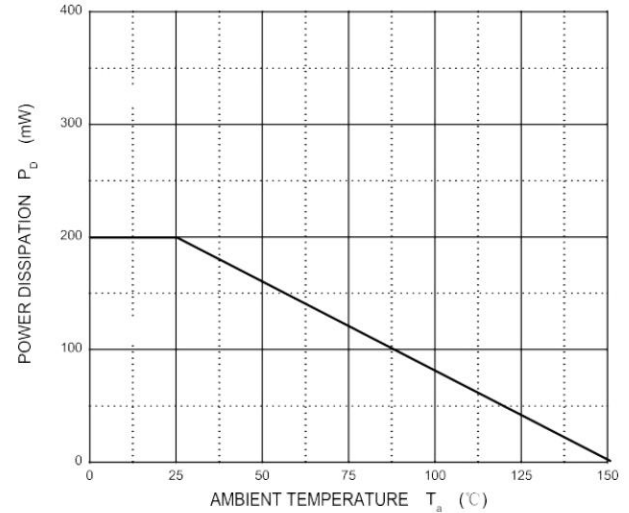

Transfer Characteristics
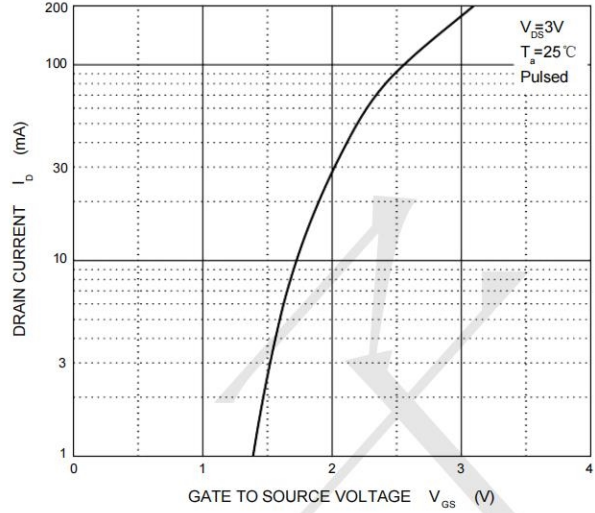
$R_{DS(ON)}$ — I_D
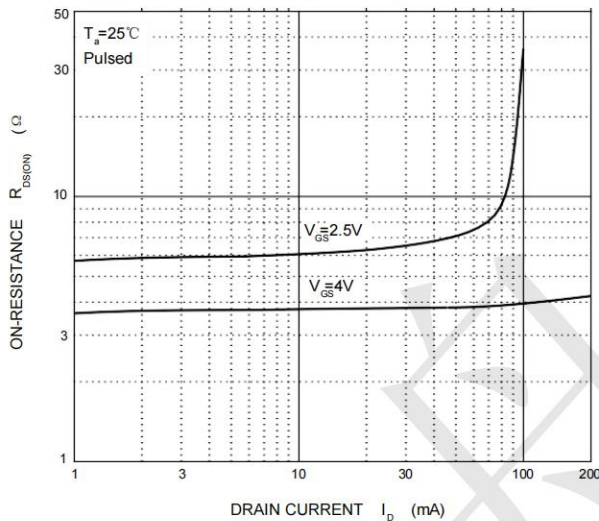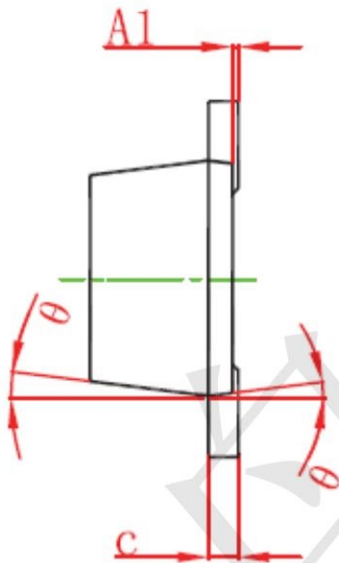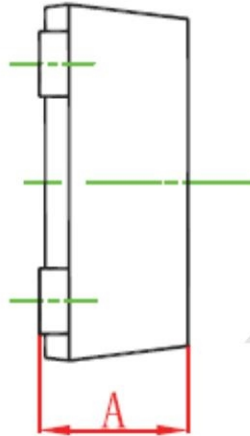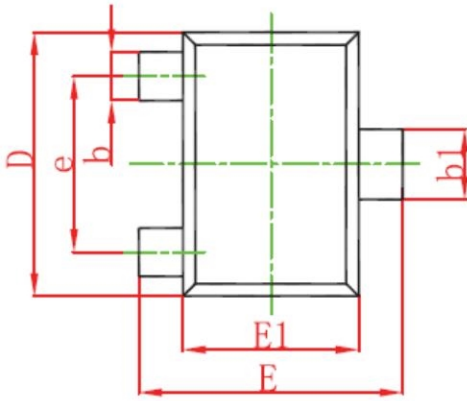

$R_{DS(ON)}$ — V_{GS}
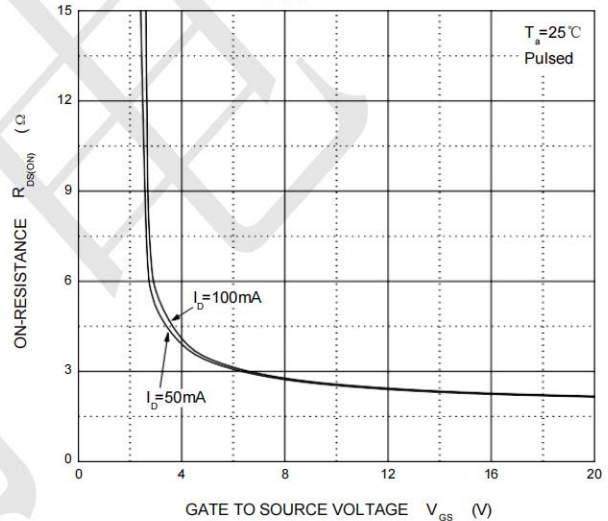
I_S — V_{SD}

P_D — T_a

SOT723-Package Outline Drawing

Suggested Land Pattern

Symbol	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.43	0.50	0.017	0.020
A1	0.00	0.05	0.000	0.002
b	0.17	0.27	0.007	0.011
b1	0.27	0.37	0.011	0.015
c	0.08	0.15	0.003	0.006
D	1.15	1.25	0.045	0.049
E	1.15	1.25	0.045	0.049
E1	0.75	0.85	0.03	0.033
e	0.8 typ		0.031 typ	
θ	7° REF		7° REF	