General Features

| $V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
60 V	105mΩ@10V	3A
	125mΩ@4.5V	

Application

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

Package and Pin Configuration

SOT23
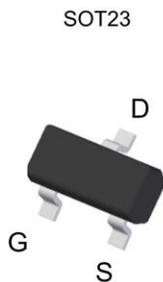
Circuit diagram

Marking:

S10
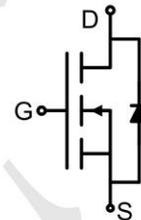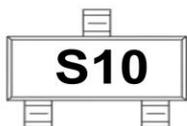
Absolute Maximum Ratings (T$_A$=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	3	A
Pulsed Drain Current (note 1)	I_{DM}	10	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250µA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =60V, V_{GS} = 0V			1	µA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250µA	0.5		2	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} =10V, I_D =3A			105	mΩ
		V_{GS} =4.5V, I_D =3A			125	mΩ
Forward tranconductance (note 3)	g_{FS}	V_{DS} =15V, I_D =2A	1.4			S
Diode forward voltage (note 3)	V_{SD}	I_S=3A, V_{GS} = 0V			1.2	V
DYNAMIC CHARACTERISTICS (note 4)						
Input Capacitance	C_{iss}	V_{DS} =30V, V_{GS} =0V, f =1MHz		247		pF
Output Capacitance	C_{oss}			34		pF
Reverse Transfer Capacitance	C_{rss}			19.5		pF
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V, V_{DD}=30V, I_D=1.5A, R_{GEN}=1Ω		6		ns
Turn-on rise time	t_r			15		ns
Turn-off delay time	$t_{d(off)}$			15		ns
Turn-off fall time	t_f			10		ns
Total Gate Charge	Q_g	V_{DS} =30V, V_{GS} =4.5V, I_D =3A		6		nC
Gate-Source Charge	Q_{gs}			1		nC
Gate-Drain Charge	Q_{gd}			1.3		nC

Typical Electrical and Thermal Characteristics (Curves)
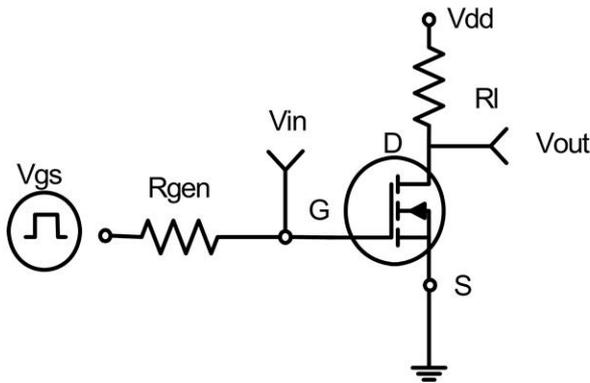
**Figure 1:Switching Test Circuit**
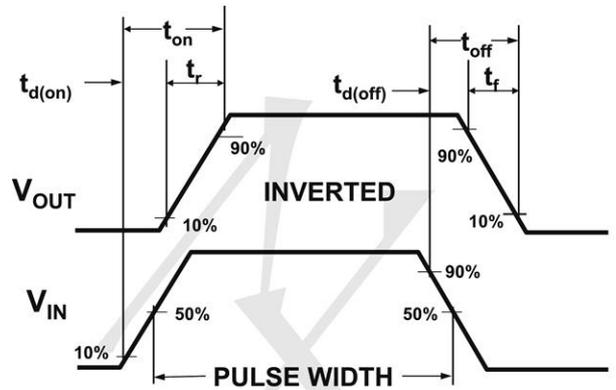
Figure 2:Switching Waveforms

T_J-Junction Temperature(℃)
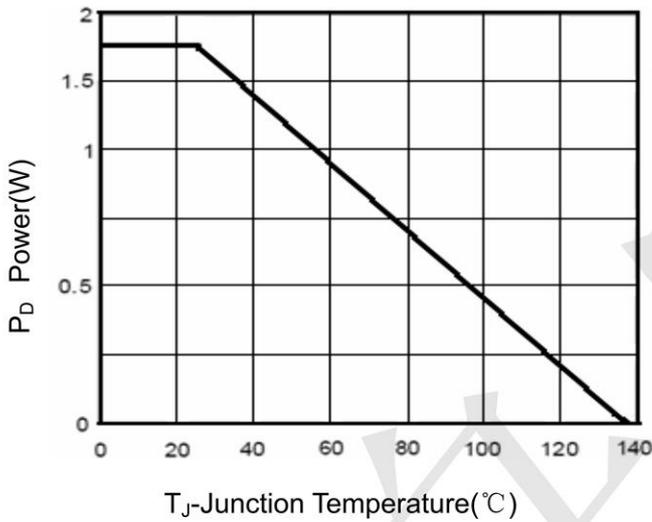
Figure 3 Power Dissipation

T_J-Junction Temperature(℃)

Figure 4 Drain Current

Vds Drain-Source Voltage (V)
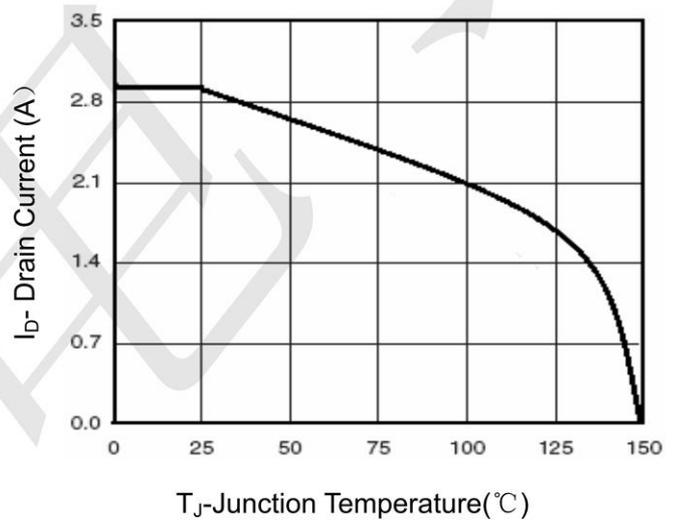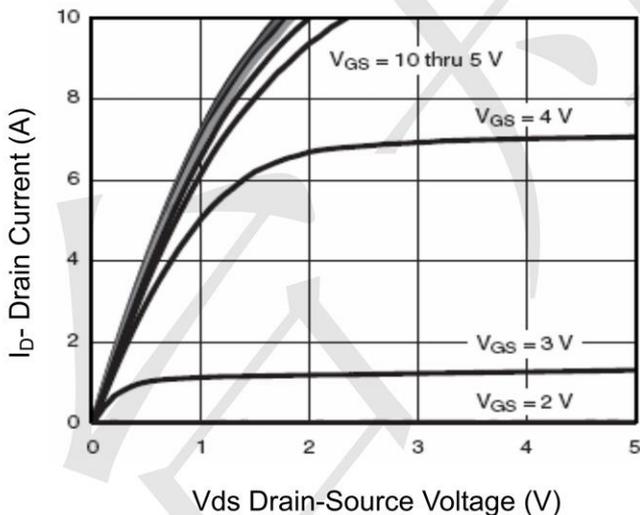
Figure 5 Output Characteristics

I_D- Drain Current (A)
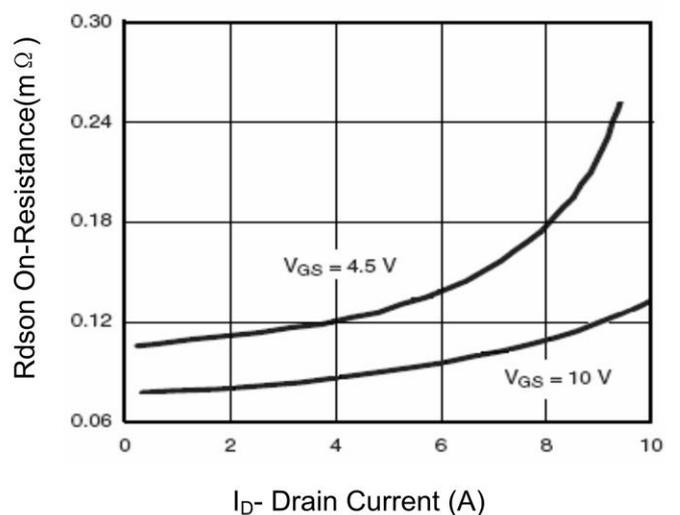
Figure 6 Drain-Source On-Resistance

Typical Electrical and Thermal Characteristics (Curves)
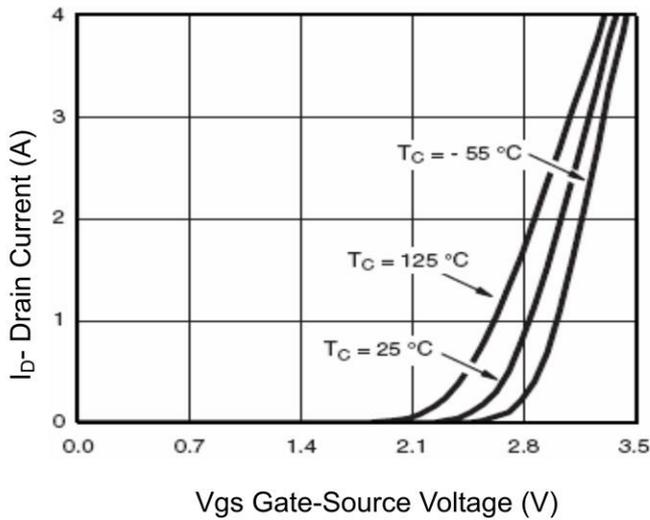
**Figure 7 Transfer Characteristics**
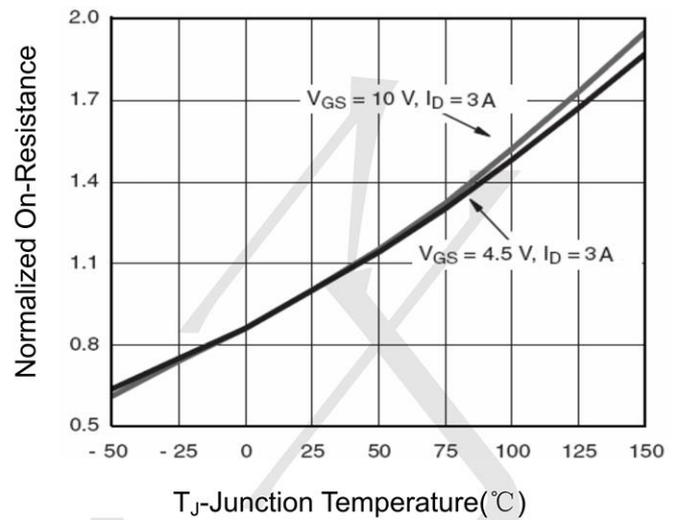
Figure 8 Drain-Source On-Resistance
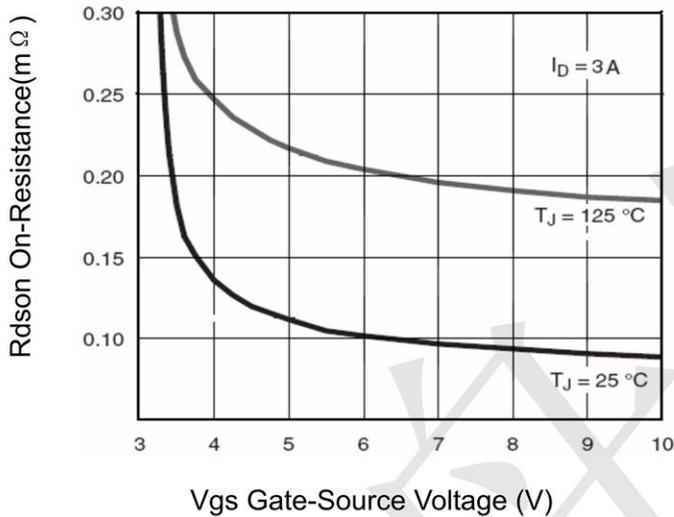
Figure 9 Rdson vs Vgs
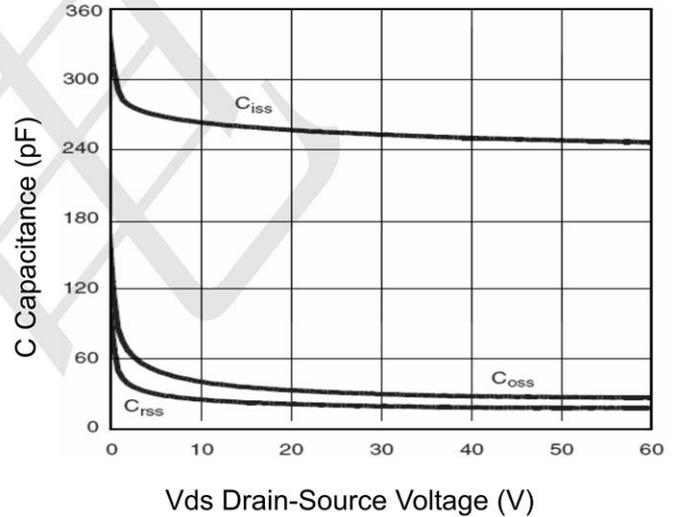
**Figure 10 Capacitance vs Vds**
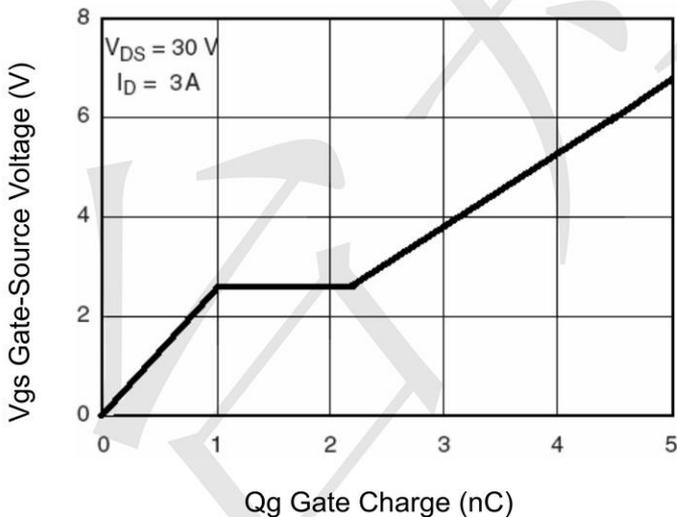
Figure 11 Gate Charge
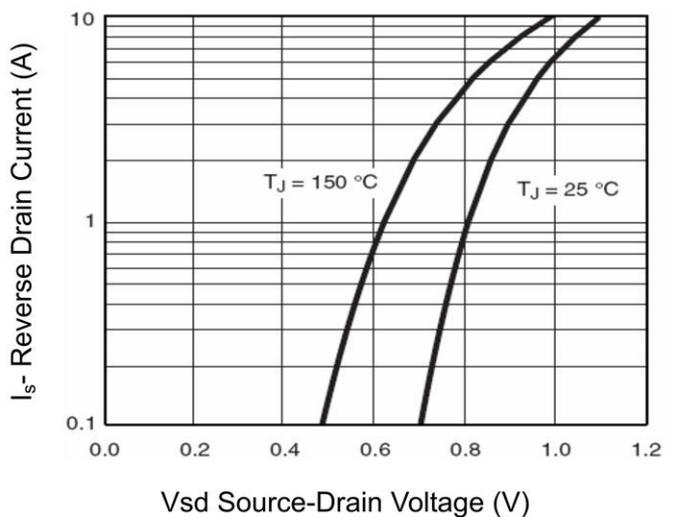
**Figure 12 Source- Drain Diode Forward**
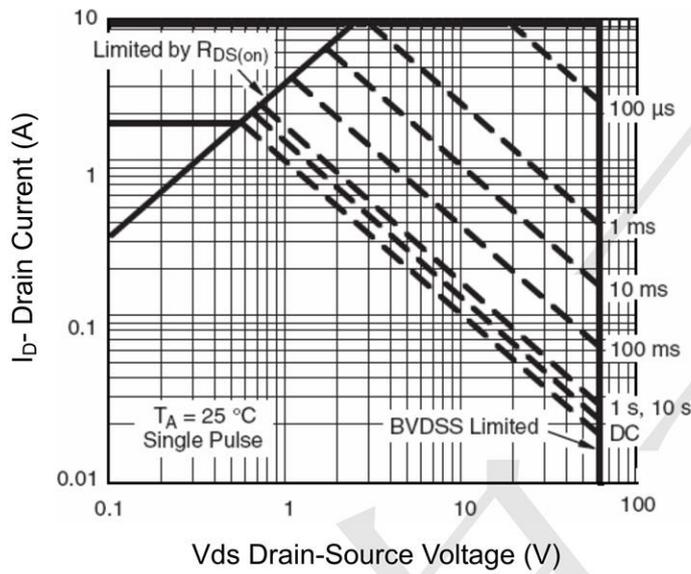
Figure 13 Safe Operation Area
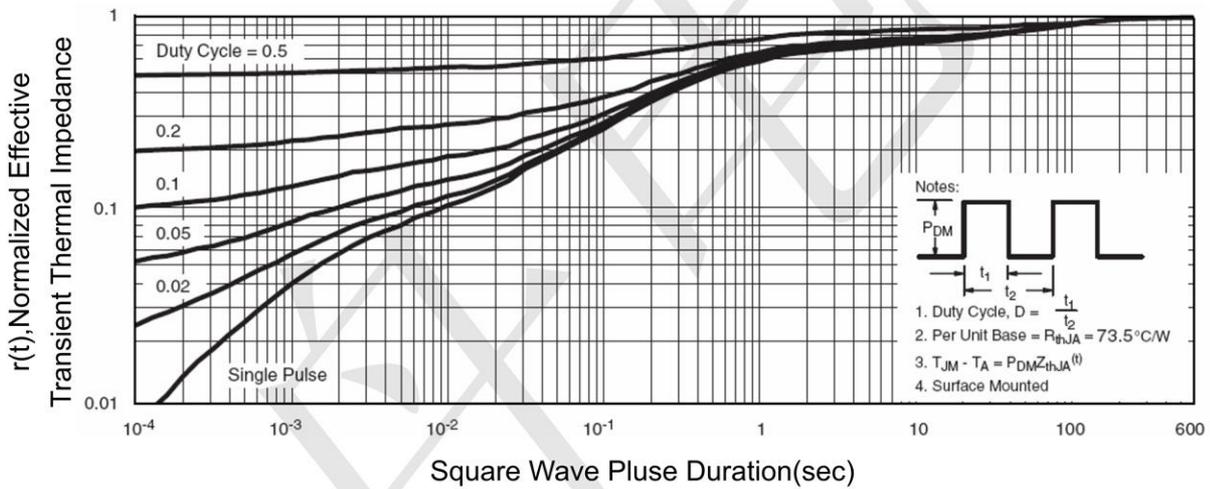
Figure 14 Normalized Maximum Transient Thermal Impedance

Package Outline Dimensions (SOT-23)
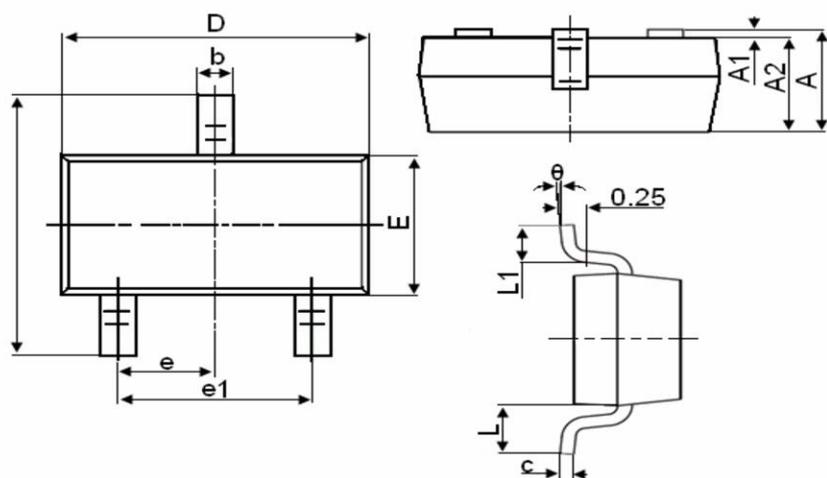
Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET *category:*

Click to view products by TECH PUBLIC *manufacturer:*

Other Similar products are found below :

614233C 648584F MCH3443-TL-E MCH6422-TL-E FDPF9N50NZ NTNS3A92PZT5G IRFD120 IRFF430 JANTX2N5237 2N7000 AOD464 2SK2267(Q) 2SK2545(Q,T) 405094E 423220D MIC4420CM-TR VN1206L 614234A 715780A SSM6J414TU,LF(T 751625C IPS70R2K0CEAKMA1 BSF024N03LT3 G PSMN4R2-30MLD TK31J60W5,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG FCAB21350L1 P85W28HP2F-7071 DMN1053UCP4-7 NTE2384 NTE2969 NTE6400A DMC2700UDMQ-7 DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 SSM6P54TU,LF DMP22D4UFO-7B IPS60R3K4CEAKMA1 DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 IRF40H233XTMA1 IPSA70R950CEAKMA1 IPSA70R2K0CEAKMA1 STU5N65M6 C3M0021120D