

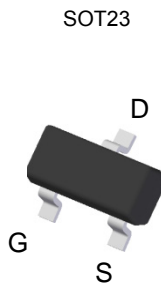
### General Features

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

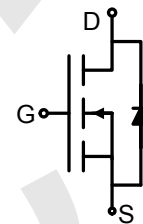
### Application

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

### Package and Pin Configuration



### Circuit diagram



### Marking:



### Absolute Maximum Ratings ( $T_A=25^{\circ}C$ 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	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~+150	$^{\circ}C$

**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	60			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 60V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Gate threshold voltage (note 3)	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	0.5		2	V
Drain-source on-resistance (note 3)	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 3A			105	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 3A			125	mΩ
Forward tranconductance (note 3)	g <sub>FS</sub>	V <sub>DS</sub> = 15V, I <sub>D</sub> = 2A	1.4			S
Diode forward voltage (note 3)	V <sub>SD</sub>	I <sub>S</sub> = 3A, V <sub>GS</sub> = 0V			1.2	V
<b>DYNAMIC CHARACTERISTICS (note 4)</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V, f = 1MHz		247		pF
Output Capacitance	C <sub>oss</sub>			34		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			19.5		pF
<b>SWITCHING CHARACTERISTICS (note 4)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> = 10V, V <sub>DD</sub> = 30V, I <sub>D</sub> = 1.5A, R <sub>GEN</sub> = 1Ω		6		ns
Turn-on rise time	t <sub>r</sub>			15		ns
Turn-off delay time	t <sub>d(off)</sub>			15		ns
Turn-off fall time	t <sub>f</sub>			10		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 3A		6		nC
Gate-Source Charge	Q <sub>gs</sub>			1		nC
Gate-Drain Charge	Q <sub>gd</sub>			1.3		nC

Typical Electrical and Thermal Characteristics (Curves)

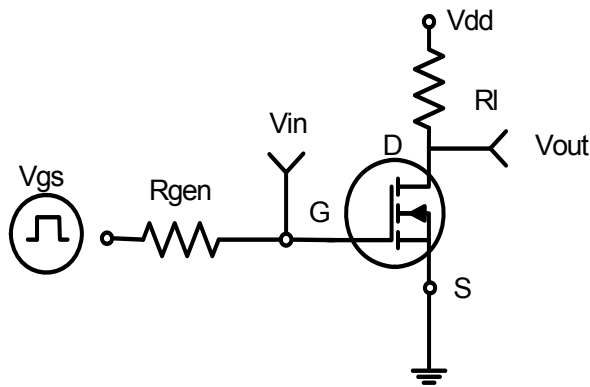


Figure 1: Switching Test Circuit

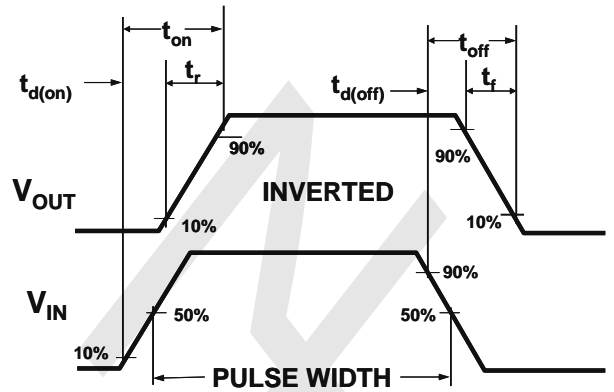


Figure 2: Switching Waveforms

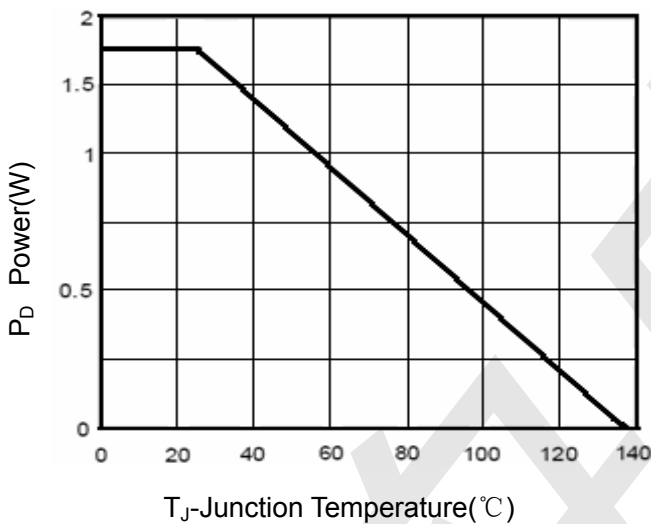


Figure 3 Power Dissipation

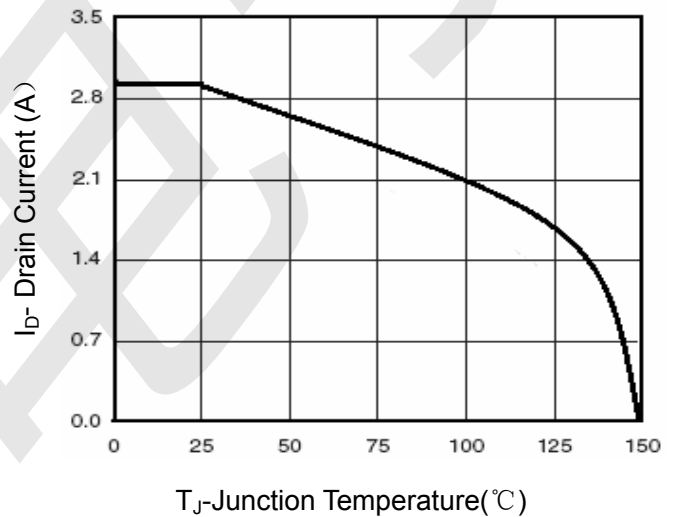


Figure 4 Drain Current

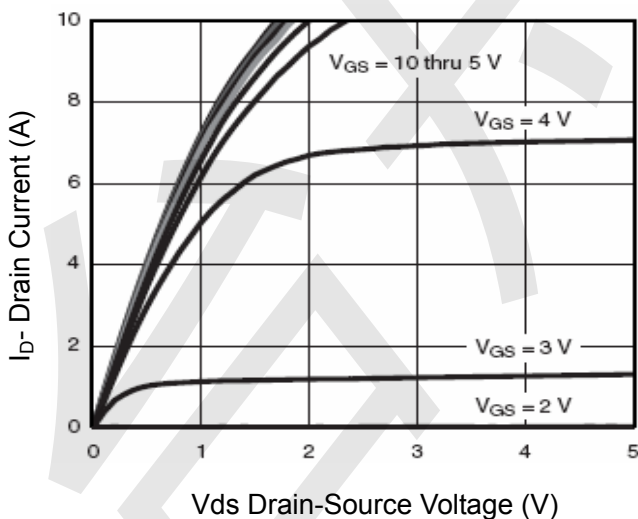


Figure 5 Output Characteristics

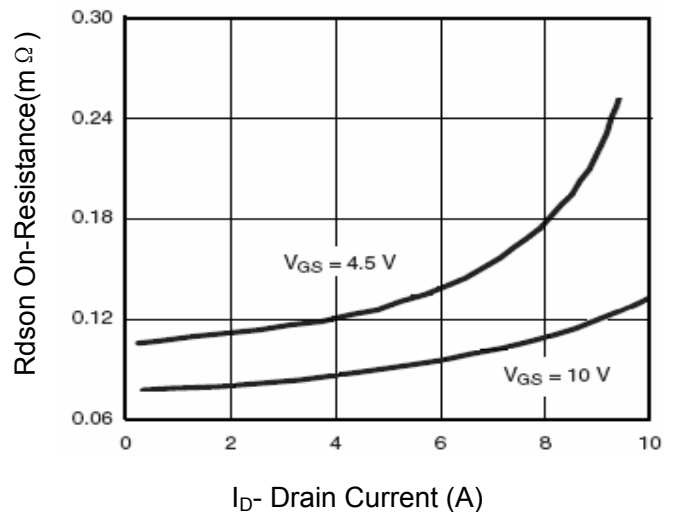
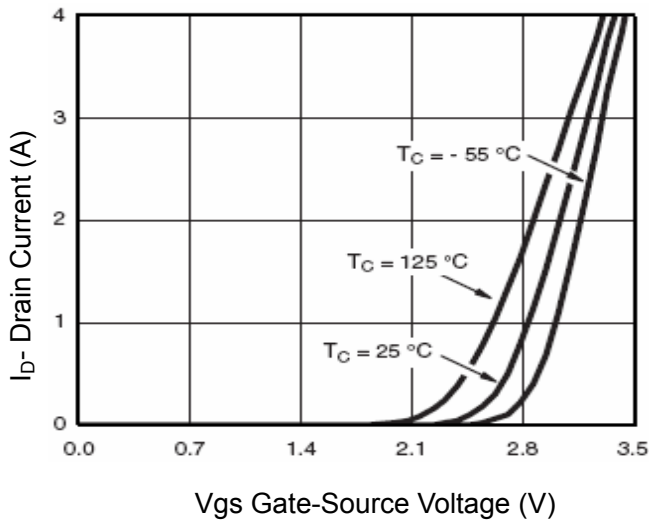
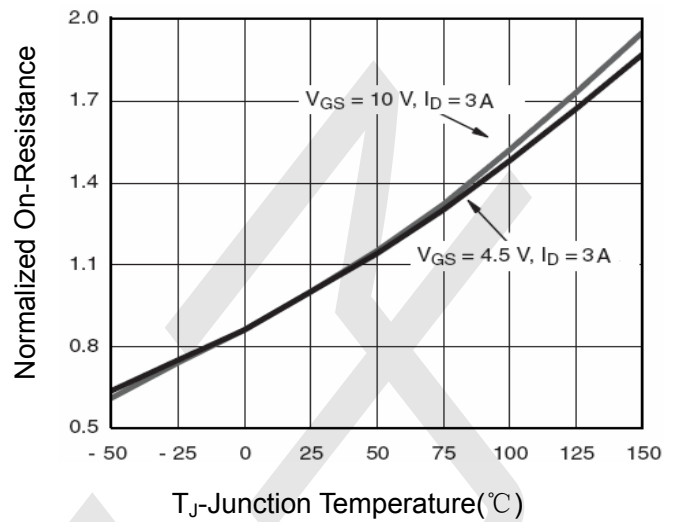


Figure 6 Drain-Source On-Resistance

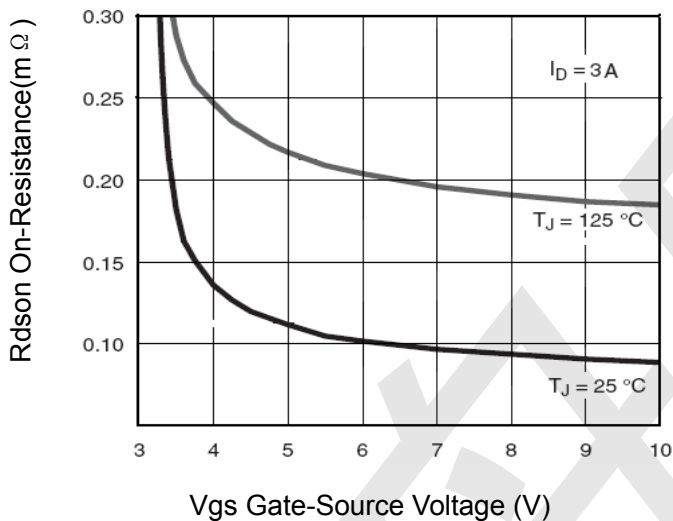
Typical Electrical and Thermal Characteristics (Curves)



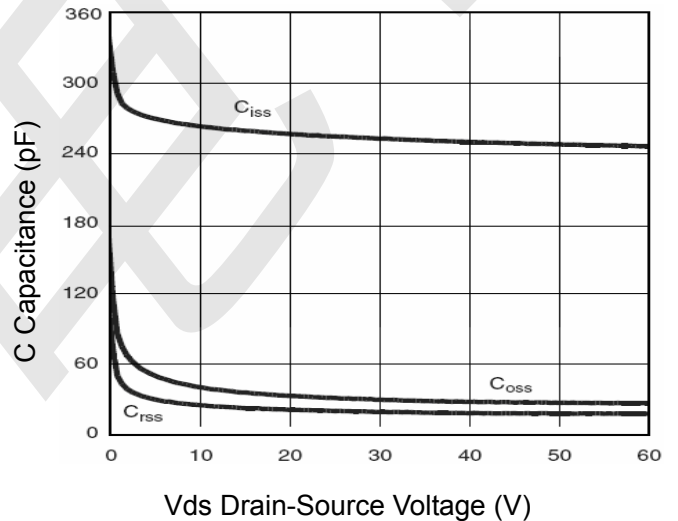
**Figure 7 Transfer Characteristics**



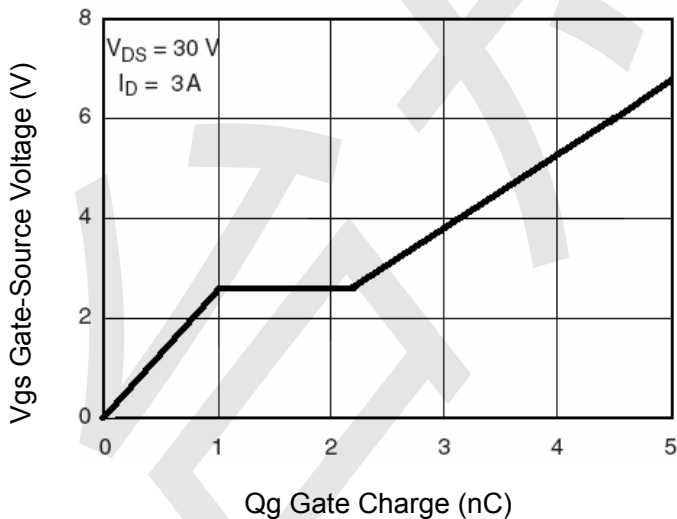
**Figure 8 Drain-Source On-Resistance**



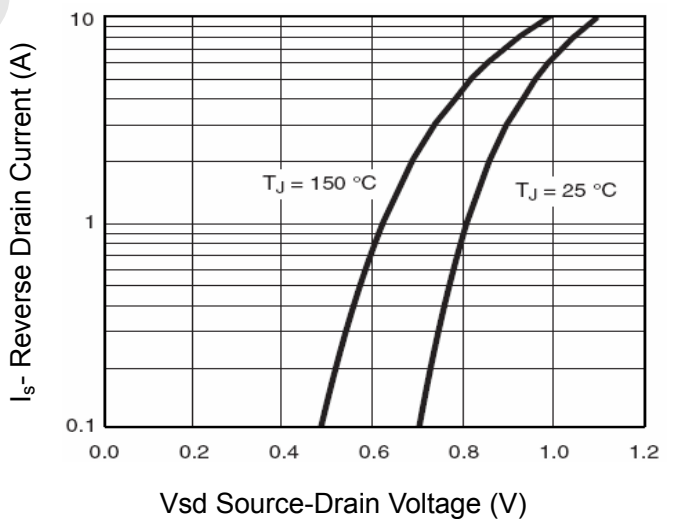
**Figure 9 Rdson vs Vgs**



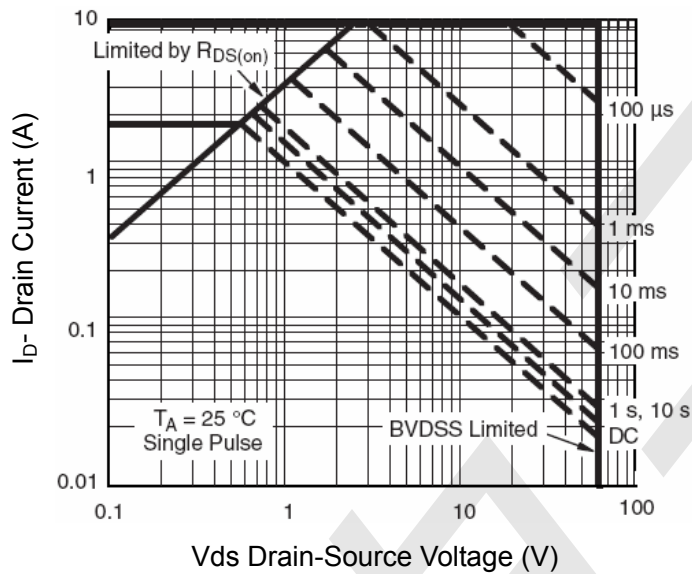
**Figure 10 Capacitance vs Vds**



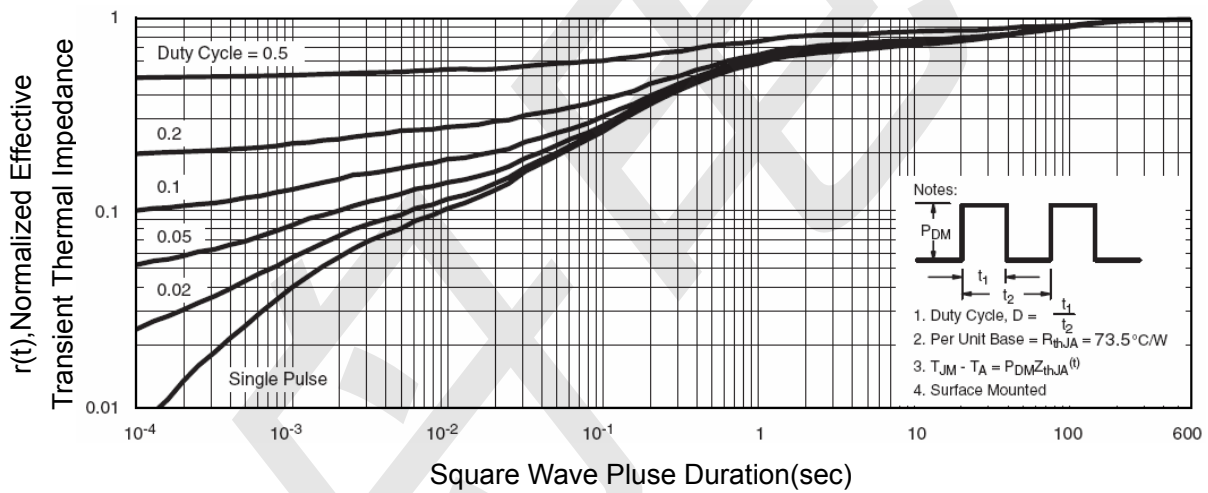
**Figure 11 Gate Charge**



**Figure 12 Source- Drain Diode Forward**



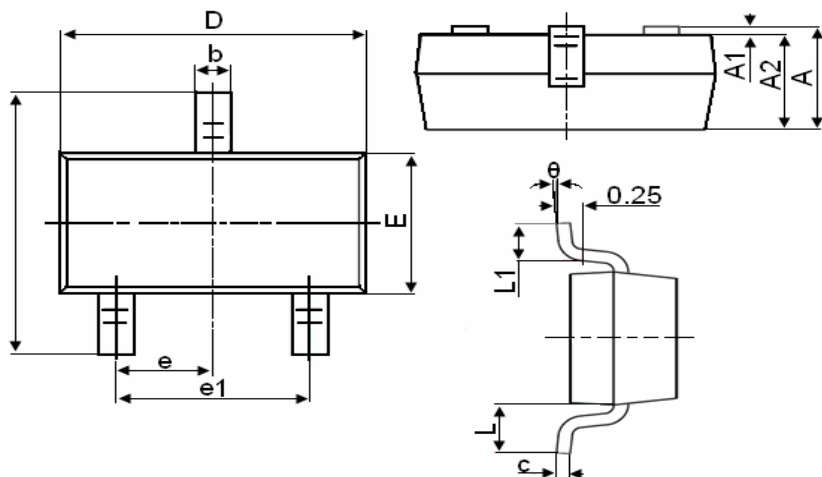
**Figure 13 Safe Operation Area**



**Figure 14 Normalized Maximum Transient Thermal Impedance**

Package Outline Dimensions (SOT-23)

[www.sot23.com.tw](http://www.sot23.com.tw)



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 [RF MOSFET Transistors](#) category:*

*Click to view products by [TECH PUBLIC](#) manufacturer:*

Other Similar products are found below :

[FH2164](#) [BLF245](#) [ARF465BG](#) [BF 2030](#) [E6814](#) [BLF861A](#) [MRF6S20010GNR1](#) [DU28200M](#) [MMRF1015NR1](#) [UF28100M](#) [MW6S010GNR1](#)  
[DU2820S](#) [MRF24301HR5](#) [MMRF1014NT1](#) [MRF422](#) [ARF468BG](#) [MAPHST0045](#) [A2T27S020NR1](#) [DU2860U](#) [MHT1803A](#) [VRF152GMP](#)  
[MRFE6VP5300NR1](#) [BF2040E6814HTSA1](#) [MRFE6VP5150NR1](#) [MMRF5014HR5](#) [LET9060S](#) [MRF136Y](#) [MRF175GV](#) [AFT27S010NT1](#)  
[AFT27S006NT1](#) [MRF1K50NR5](#) [BG 3130](#) [H6327](#) [MRFE6VP5300NR1](#) [MRFE6VP5600HR6](#) [MRFX1K80HR5](#) [BF998E6327HTSA1](#)  
[AFM907NT1](#) [AFT05MS006NT1](#) [AFV10700HR5](#) [MRF141](#) [MRF492](#) [MRF141](#) [MRF171](#) [MRF172](#) [MRF174](#) [AFM906NT1](#) [BLF578XR,112](#)  
[TPM9305PD6](#) [CJU02N65](#) [FDS9926A](#) [AFT05MS031NR1](#)