

# G3018

## N-CHANNEL MOSFET

BV <sub>DSS</sub>	30V
R <sub>DS(ON)</sub>	8Ω
I <sub>D</sub>	115mA

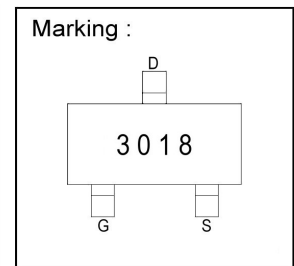
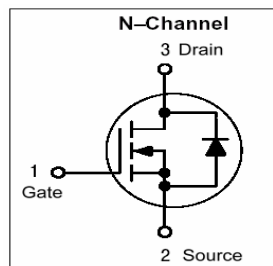
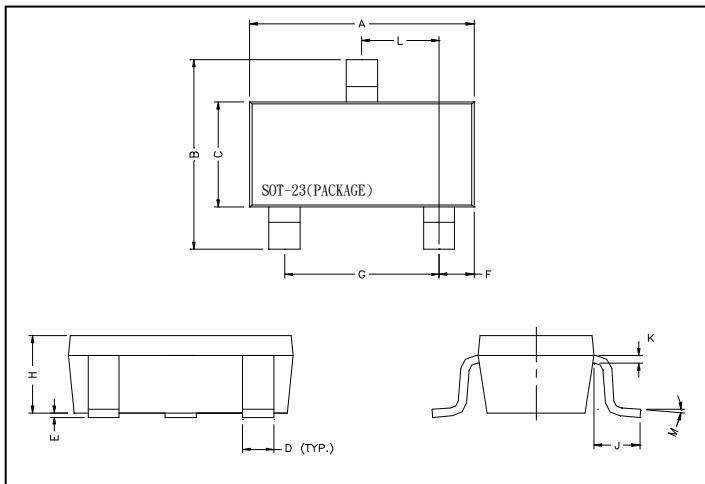
### Description

N-channel enhancement-mode MOSFET

### Features

- Low on-resistance.
- Fast switching speed.
- Low voltage drive (2.5V) makes this device ideal for portable equipment.
- Easily designed drive circuits.
- Easy to parallel.

### Package Dimensions



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.40	2.80	H	1.00	1.30
C	1.40	1.60	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

### Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V <sub>DS</sub>	30	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Continuous Drain Current <sup>3</sup>	I <sub>D</sub> @TA=25°C	115	mA
Continuous Drain Current <sup>3</sup>	I <sub>D</sub> @TA=100°C	75	mA
Pulsed Drain Current <sup>1,2</sup>	I <sub>DM</sub>	800	mA
Power Dissipation	P <sub>D</sub> @TA=25°C	0.225	W
Linear Derating Factor		0.0018	W/°C
Operating Junction and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-40 ~ +150	°C

### Thermal Data

Parameter	Symbol	Ratings	Unit
Thermal Resistance Junction-ambient <sup>3</sup> Max.	R <sub>thj-a</sub>	556	°C/W

**Electrical Characteristics(T<sub>j</sub> = 25°C Unless otherwise specified)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	30	-	-	V	V <sub>GS</sub> =0, I <sub>D</sub> =250uA
Gate Threshold Voltage	V <sub>GS(th)</sub>	0.8	-	2.0	V	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =0.1mA
Forward Transconductance	g <sub>fs</sub>	20	-	-	mS	V <sub>DS</sub> =3V, I <sub>D</sub> =10mA
Gate-Source Leakage Current	I <sub>GSS</sub>	-	-	±1	uA	V <sub>GS</sub> = ±20V
Drain-Source Leakage Current	I <sub>DSS</sub>	-	-	1	uA	V <sub>DS</sub> =30V, V <sub>GS</sub> =0
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	-	5	8	Ω	V <sub>GS</sub> =4V, I <sub>D</sub> =10mA
		-	7	13		V <sub>GS</sub> =2.5V, I <sub>D</sub> =1mA
Input Capacitance	C <sub>iss</sub>	-	-	50	pF	V <sub>GS</sub> =0V V <sub>DS</sub> =5V f=1.0MHz
Output Capacitance	C <sub>oss</sub>	-	-	25		
Reverse Transfer Capacitance	C <sub>rss</sub>	-	-	5		

**Source-Drain Diode**

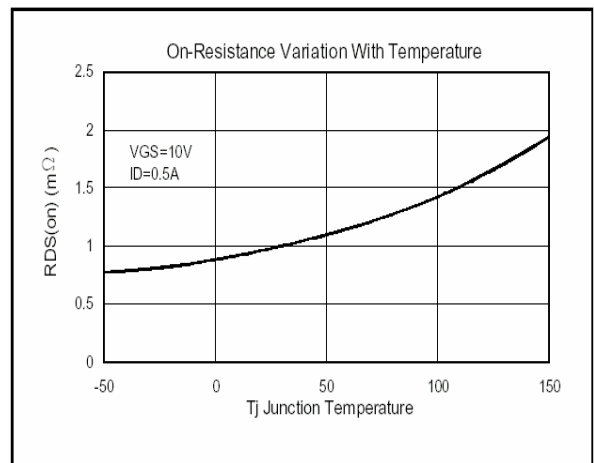
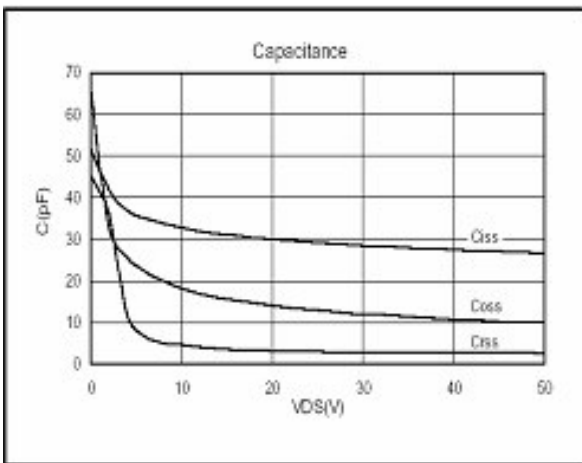
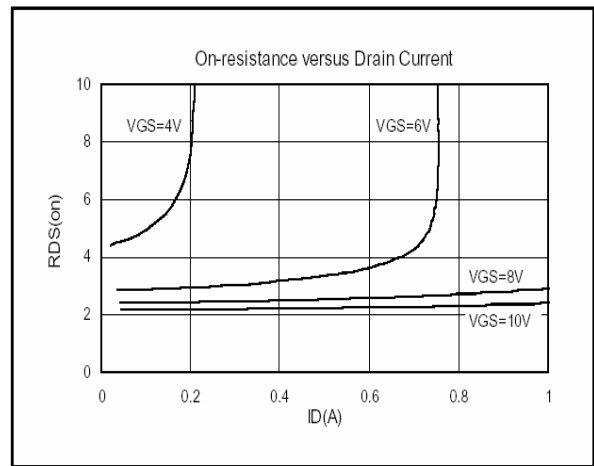
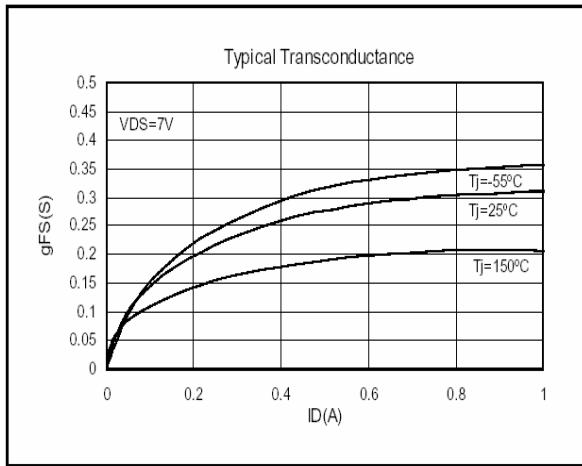
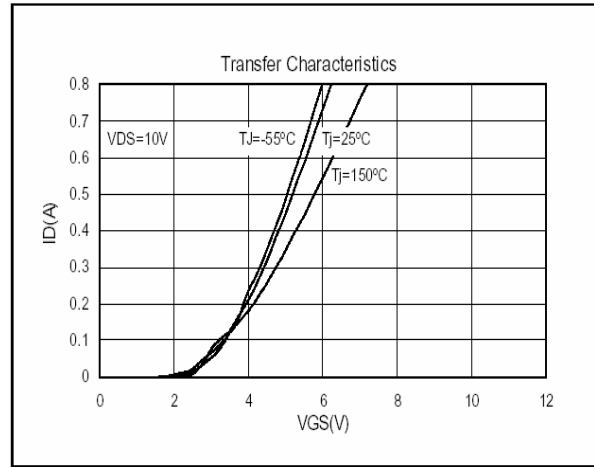
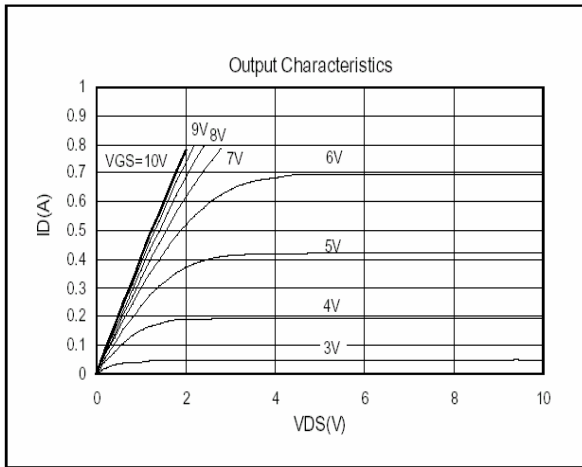
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward On Voltage <sup>2</sup>	V <sub>SD</sub>	-	0.84	1.5	V	I <sub>S</sub> =100mA, V <sub>GS</sub> =0V

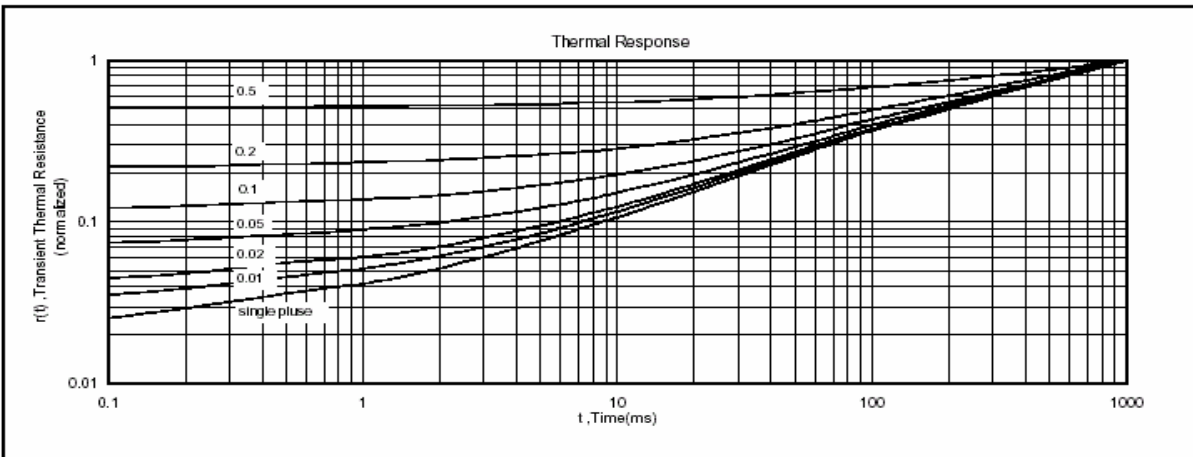
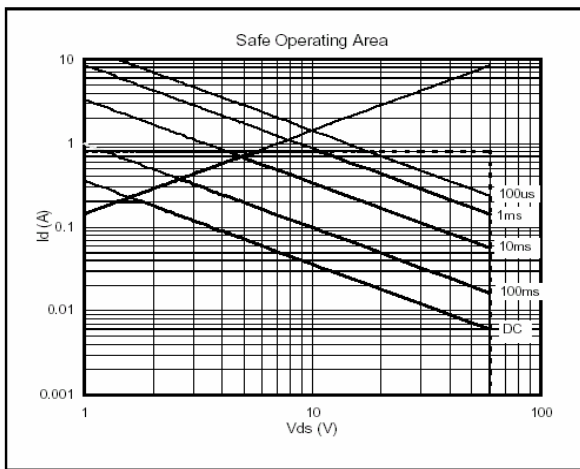
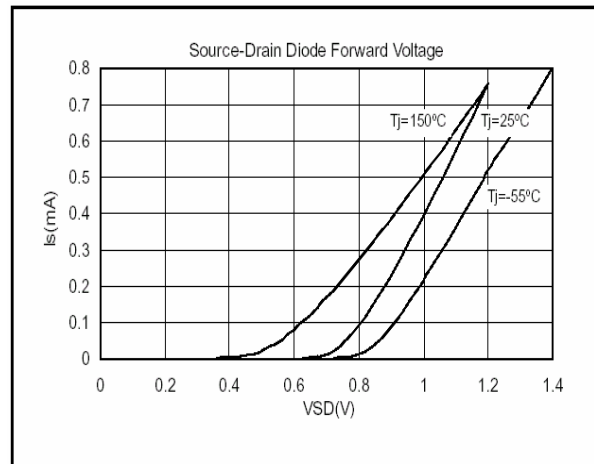
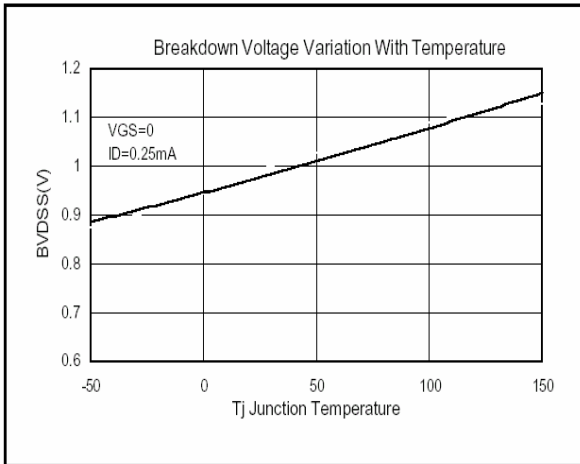
Notes: 1. Pulse width limited by Max. junction temperature.

2. Pulse width ≤ 300us, duty cycle ≤ 2%.

3. Surface mounted on 1 in<sup>2</sup> copper pad of FR4 board; 270°C/W when mounted on Min. copper pad.

## Characteristics Curve





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