

GS3018

N-CHANNEL MOSFET

BV _{DSS}	30V
R _{DS(ON)}	8Ω
I _D	115mA

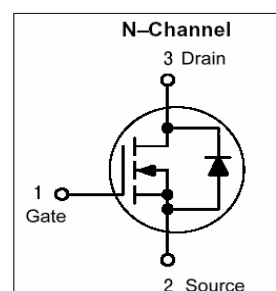
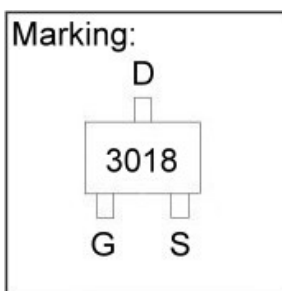
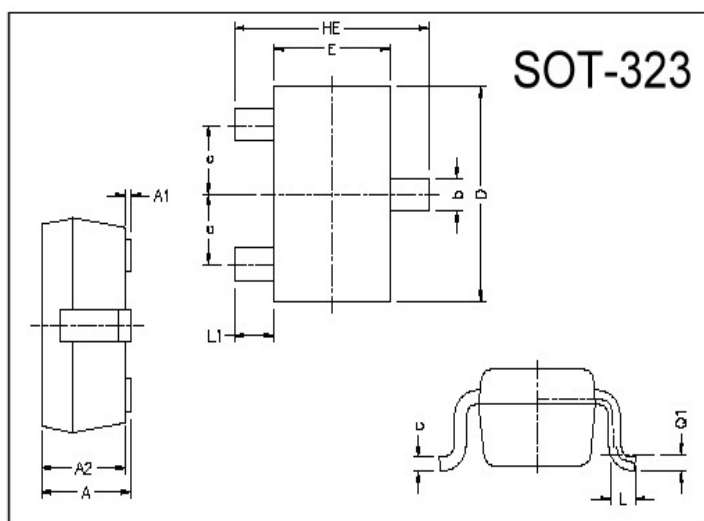
Description

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	0.8	1.10	L1	0.42	REF.
A1	0	0.10	L	0.15	0.35
A2	0.8	1.00	b	0.25	0.40
D	1.80	2.20	c	0.10	0.25
E	1.15	1.35	e	0.65	REF.
HE	1.80	2.40	Q1	0.15	BSC.

Absolute Maximum Ratings

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

Thermal Data

Parameter	Symbol	Ratings	Unit
Thermal Resistance Junction-ambient ³ Max.	R _{thj-a}	556	°C/W

Electrical Characteristics(T_j = 25°C Unless otherwise specified)

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

Source-Drain Diode

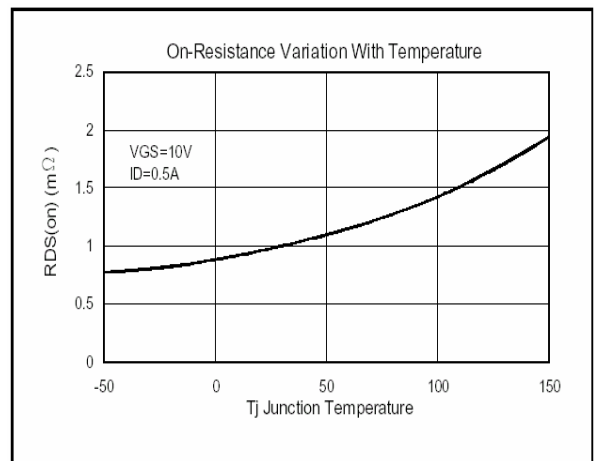
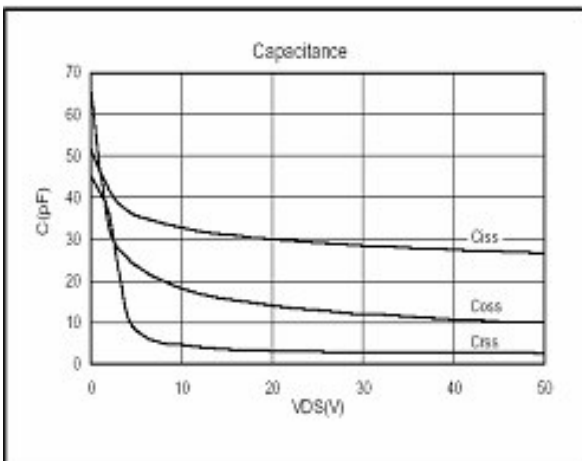
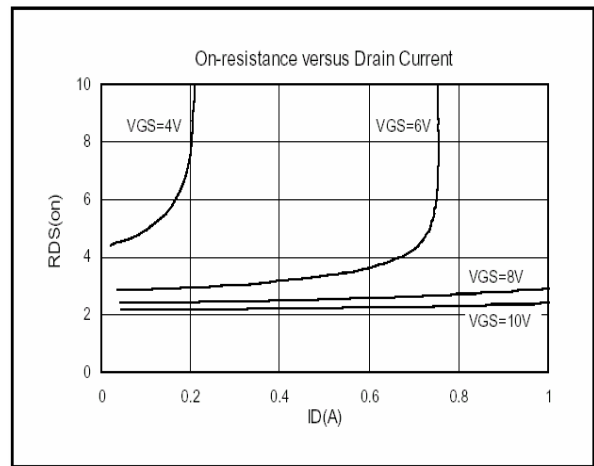
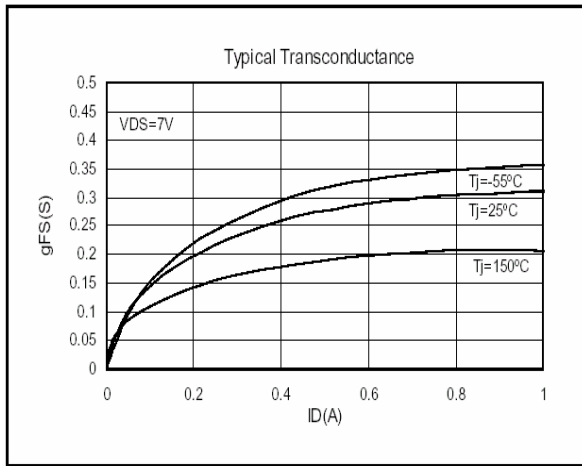
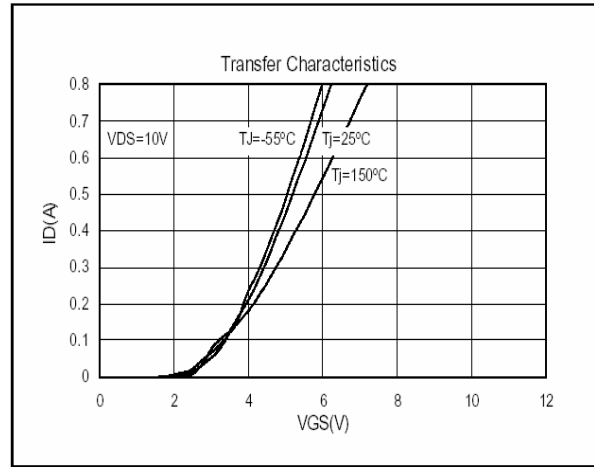
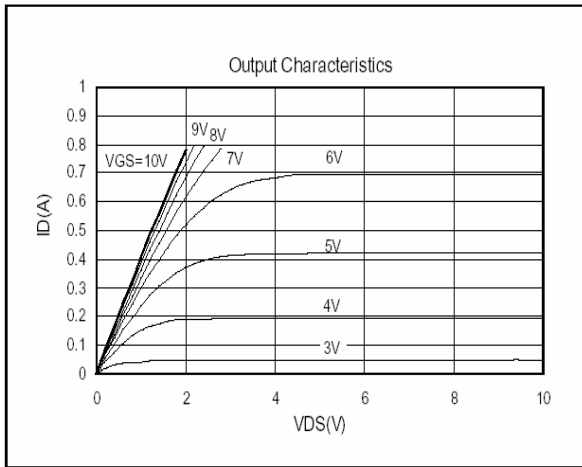
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward On Voltage ²	V _{SD}	-	0.84	1.5	V	I _S =100mA, V _{GS} =0V

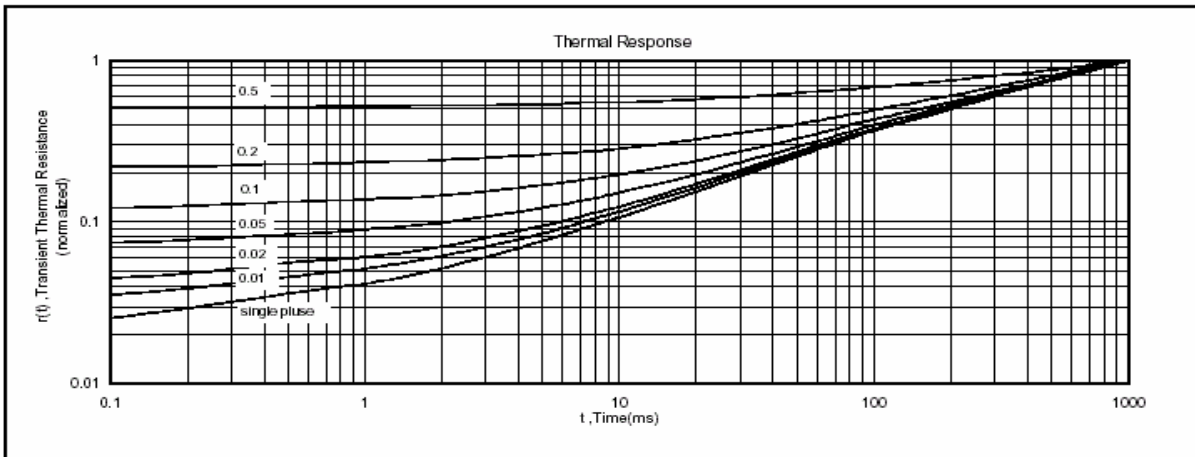
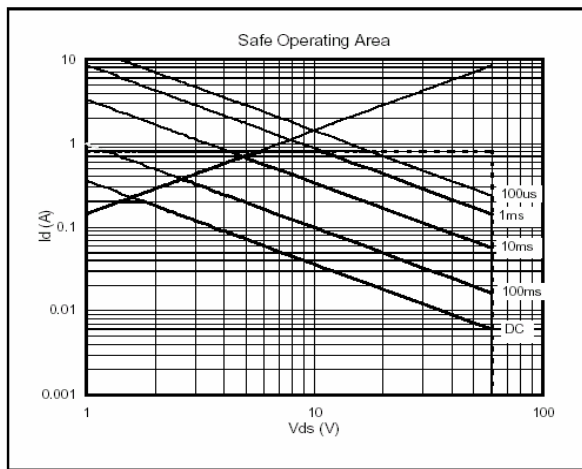
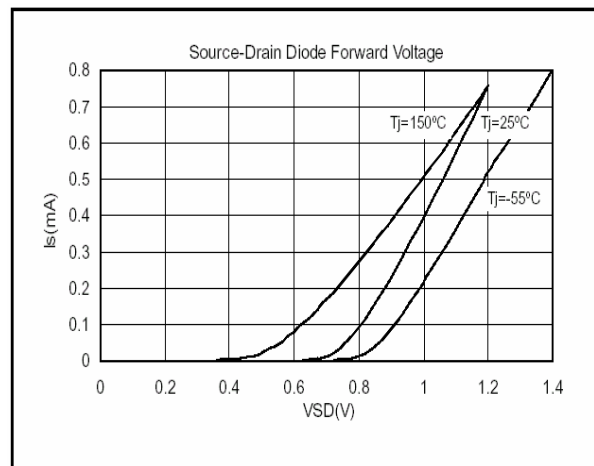
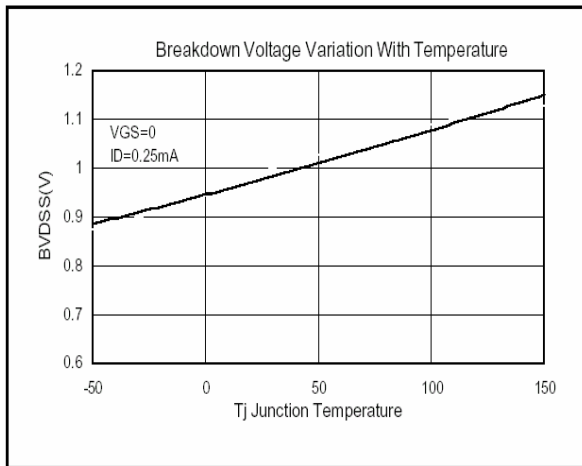
Notes: 1. Pulse width limited by Max. junction temperature.

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

3. Surface mounted on 1 in² copper pad of FR4 board; 270°C/W when mounted on Min. copper pad.

Characteristics Curve





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