Pb Free Plating Product

GTM CORPORATION

ISSUED DATE :2004/11/24
REVISED DATE :2005/12/02C

GS3018

N-CHANNEL MOSFET

BV_{DSS}	30V
$R_{DS(ON)}$	8Ω
I_D	115mA

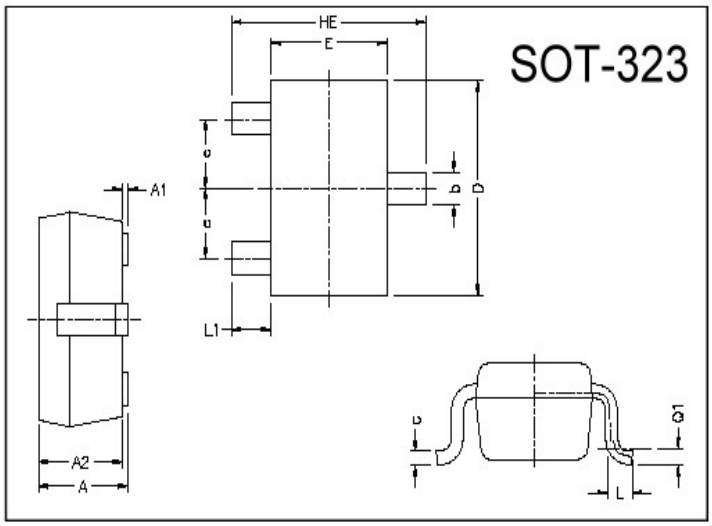
Description

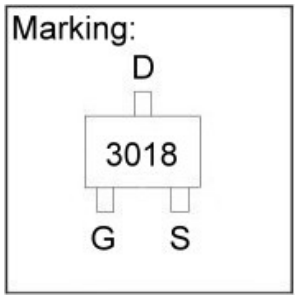
N-channel enhancement-mode MOSFET

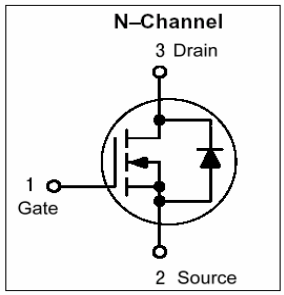
Features

- 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 @T_A=25℃	115	mA
Continuous Drain Current[3]	I_D @T_A=100℃	75	mA
Pulsed Drain Current[1,2]	I_{DM}	800	mA
Power Dissipation	P_D @T_A=25℃	0.225	W
Linear Derating Factor		0.0018	W/℃
Operating Junction and Storage Temperature Range	Tj, Tstg	-40 ~ +150	℃

Thermal Data

Parameter	Symbol	Ratings	Unit
Thermal Resistance Junction-ambient[3] Max.	Rthj-a	556	℃/W

Electrical Characteristics(Tj = 25℃ 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

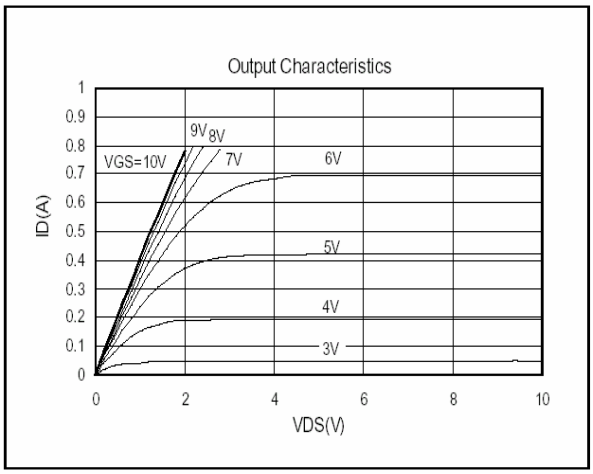
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward On Voltage[2]	V_{SD}	-	0.84	1.5	V	I_S=100mA, V_{GS}=0V

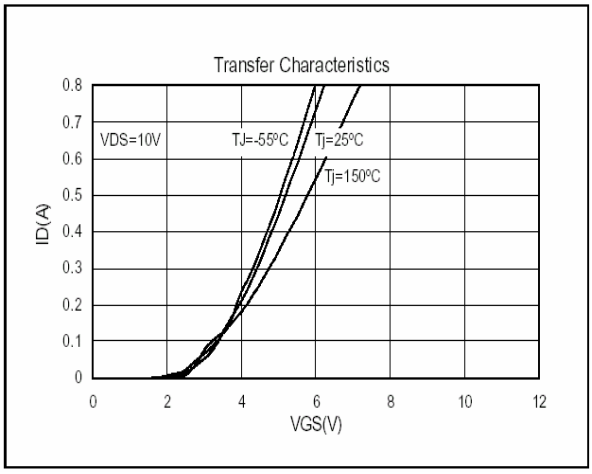
Notes: 1. Pulse width limited by Max. junction temperature.

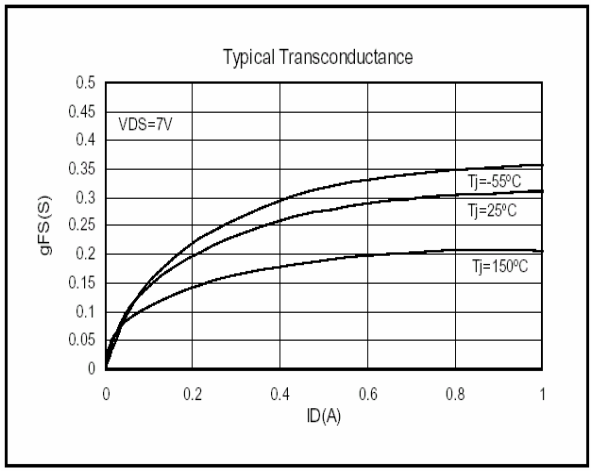
2. Pulse width≦300us, duty cycle≦2%.

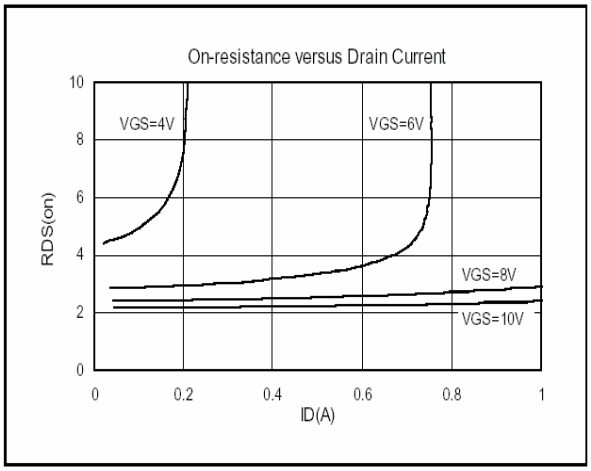
3. Surface mounted on 1 in^2 copper pad of FR4 board; 270℃/W when mounted on Min. copper pad.

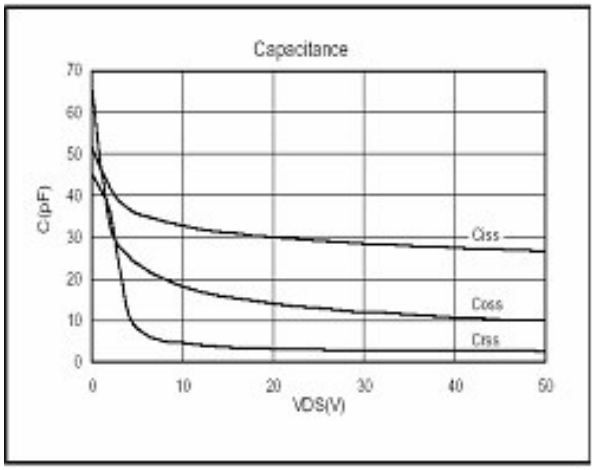
Characteristics Curve

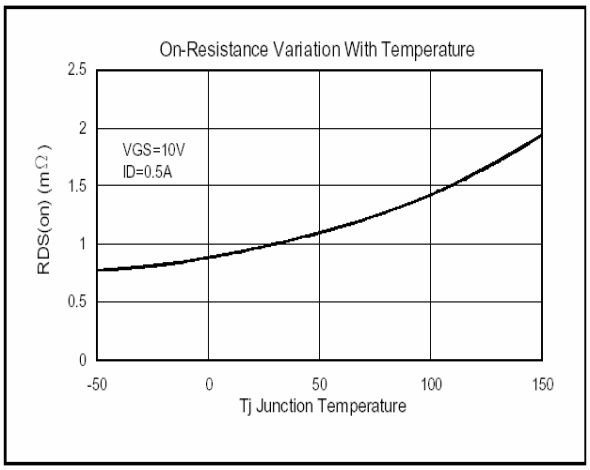


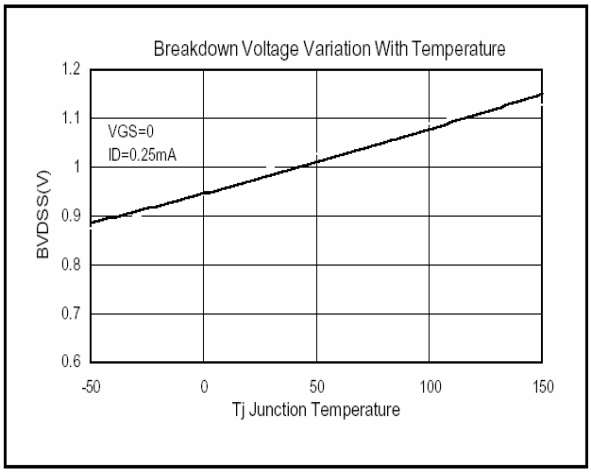


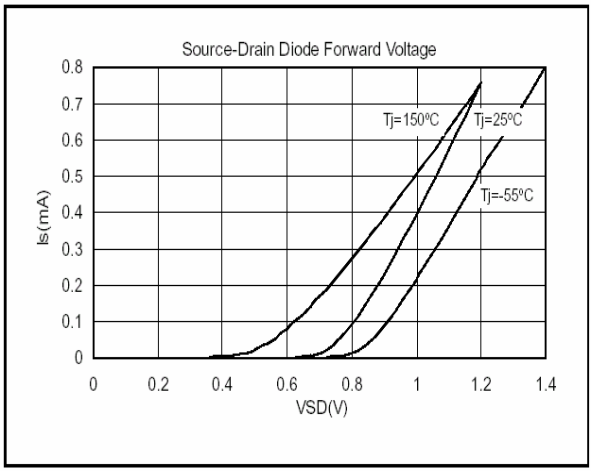


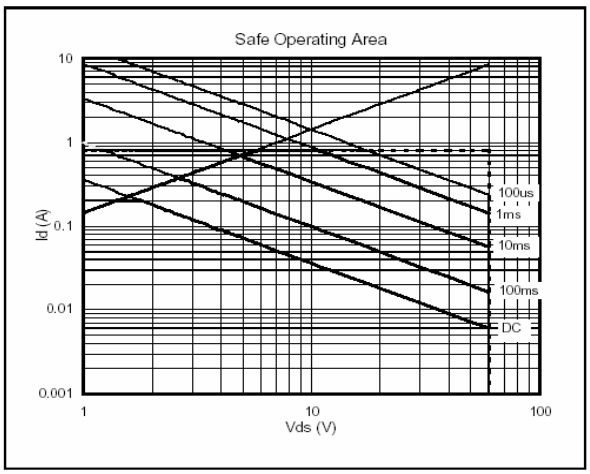


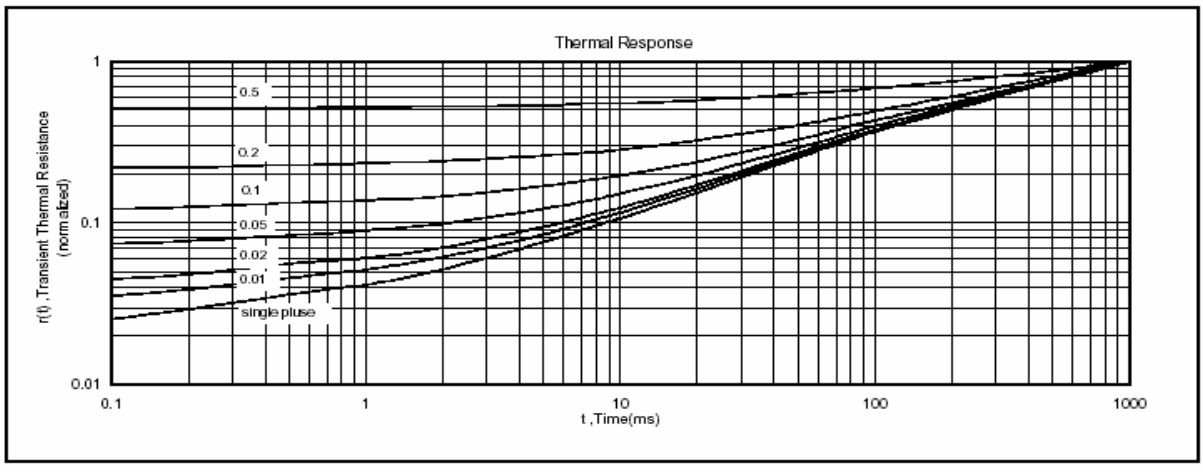












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