GSM1330S

60V N-Channel Enhancement Mode MOSFET

Product Description

GSM1330S, N-Channel enhancement mode MOSFET, uses Advanced Trench Technology to provide excellent $R_{DS(ON)}$, low gate charge.

These devices are particularly suited for low voltage power management, such as smart phone and notebook computer and other battery powered circuits, and low in-line power loss are needed in commercial industrial surface mount applications.

Features

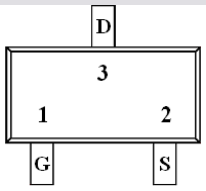
- 60V/0.5A , $R_{DS(ON)}$= 7.5Ω@V_{GS}=10V
- 60V/0.05A , $R_{DS(ON)}$= 7.5Ω@V_{GS}=5V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- ESD Protected (1KV) Diode design–in
- SOT-323(SC-70) package design

Applications

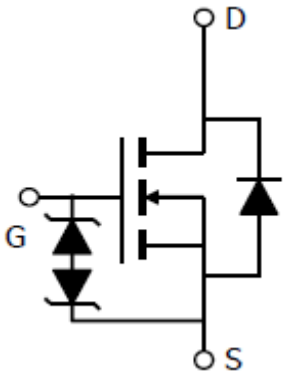
- Drivers: Relays, Solenoids, Lamps, Hammers, Display, Memories, Transistors, etc.
- High saturation current capability. Direct Logic-Level Interface: TTL/CMOS
- Battery Operated Systems
- Solid-State Relays

Packages & Pin Assignments

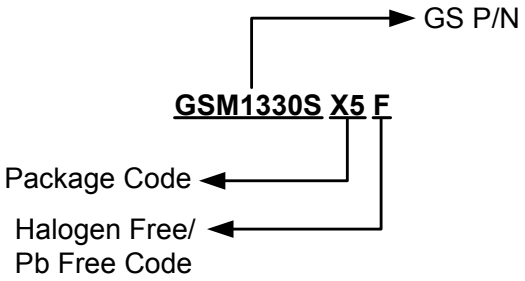
GSM1330SX5F (SOT-323)



Pin	Description
1	Gate
2	Source
3	Drain

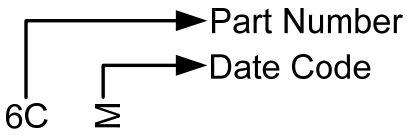


Ordering Information



Part Number	Package	Quantity
GSM1330SX5F	SOT-323	3000 PCS

Marking Information



Absolute Maximum Ratings

T_A=25ºC Unless otherwise noted

Symbol	Parameter		Typical	Unit
V_{DSS}	Drain-Source Voltage		60	V
V_{GSS}	Gate-Source Voltage		±20	V
I_D	Continuous Drain Current(T_J=150℃)	T_A=25ºC	0.115	A
		T_A=70ºC	0.075	
I_{DM}	Pulsed Drain Current		0.8	A
I_S	Continuous Source Current(Diode Conduction)		0.115	A
P_D	Power Dissipation	T_A=25ºC	0.225	W
T_J	Operating Junction Temperature		150	ºC
T_{STG}	Storage Temperature Range		-55/150	ºC
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient		417	ºC/ W

Electrical Characteristics

T_A=25ºC unless otherwise noted

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=250uA	60			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=250uA	1.0	1.6	2.0	
I_{GSS}	Gate Leakage Current	V_{DS}=0V,V_{GS}=±20V			3	uA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= 60V,V_{GS}=0V			1	uA
		V_{DS}= 60V, V_{GS}=0V,T_J=85ºC			10	
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}=10V,I_D=0.5A		1.4	7.5	Ω
		V_{GS}=5V,I_D=0.05A		1.8	7.5	
g_{fs}	Forward Transconductance	V_{DS}=10V,I_D=0.2A	80			mS
V_{SD}	Diode Forward Voltage	I_S=0.115A,V_{GS}=0V			1.5	V
Dynamic						
C_{iss}	Input Capacitance	V_{DS}=25V, V_{GS}=0V,f=1MHz		17	50	pF
C_{oss}	Output Capacitance			10	25	
C_{rss}	Reverse Transfer Capacitance			3	5	
$t_{d(on)}$	Turn-On Time	V_{DD}=25V, R_L=50Ω ,I_D=0.5A, V_{GEN}=10V,R_G=25Ω		7	20	ns
$t_{d(off)}$	Turn-Off Time			11	40	

Typical Characteristics

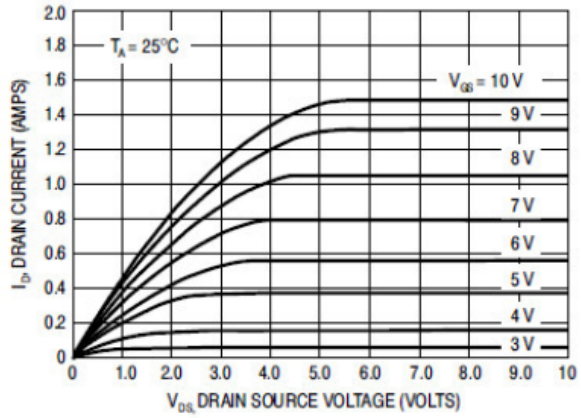


Figure 1. Ohmic Region

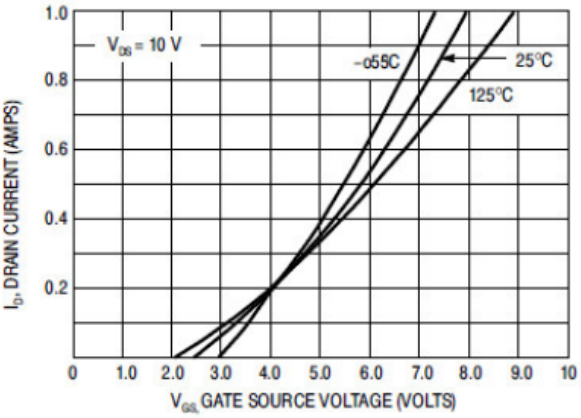


Figure 2. Transfer Characteristics

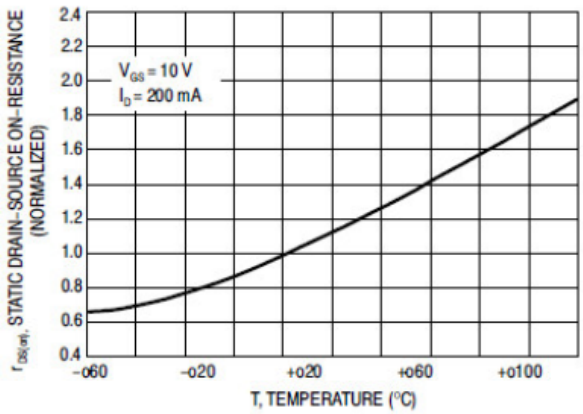


Figure 3. Temperature versus Static Drain–Source On–Resistance

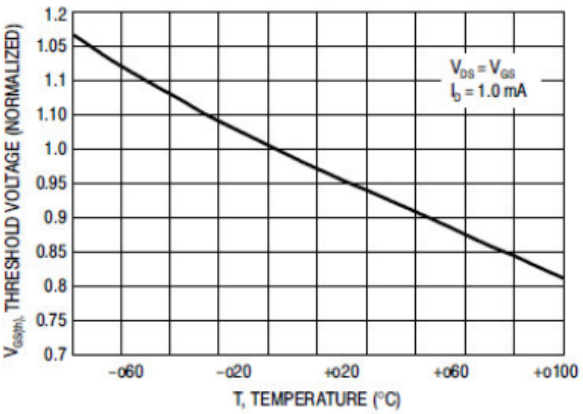
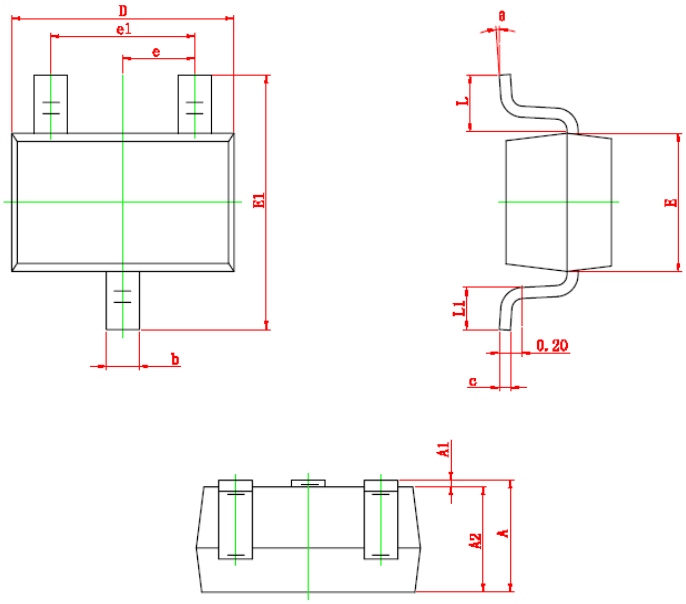


Figure 4. Temperature versus Gate Threshold Voltage

Package Dimension

SOT-323 PLASTIC PACKAGE



Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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CONTACT US

GS Headquarter	
	4F.,No.43-1,Lane11,Sec.6,Minquan E.Rd Neihu District Taipei City 114, Taiwan (R.O.C)
	886-2-2657-9980
	886-2-2657-3630
@	sales_twn@gs-power.com

Wu-Xi Branch	
	No.21 Changjiang Rd., WND, Wuxi, Jiangsu, China (INFO. &. TECH. Science Park Building A 210 Room)
	86-510-85217051
	86-510-85211238
@	sales_cn@gs-power.com

RD Division	
	824 Bolton Drive Milpitas. CA. 95035
	1-408-457-0587