

SI1308EDL-T1-GE3 pin to pin fully compatible

Features

BV_{DSS}	30V
$R_{DS(ON)}$	150mΩ
I_D	1.4A

Application

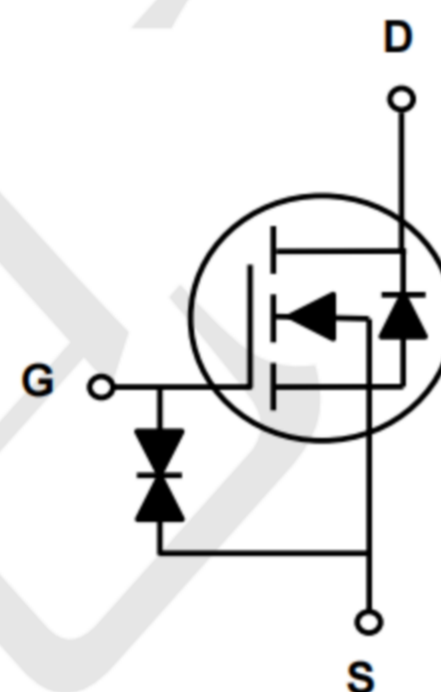
- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Package and Pin Configuration



SOT323

Circuit diagram



Marking:KGY

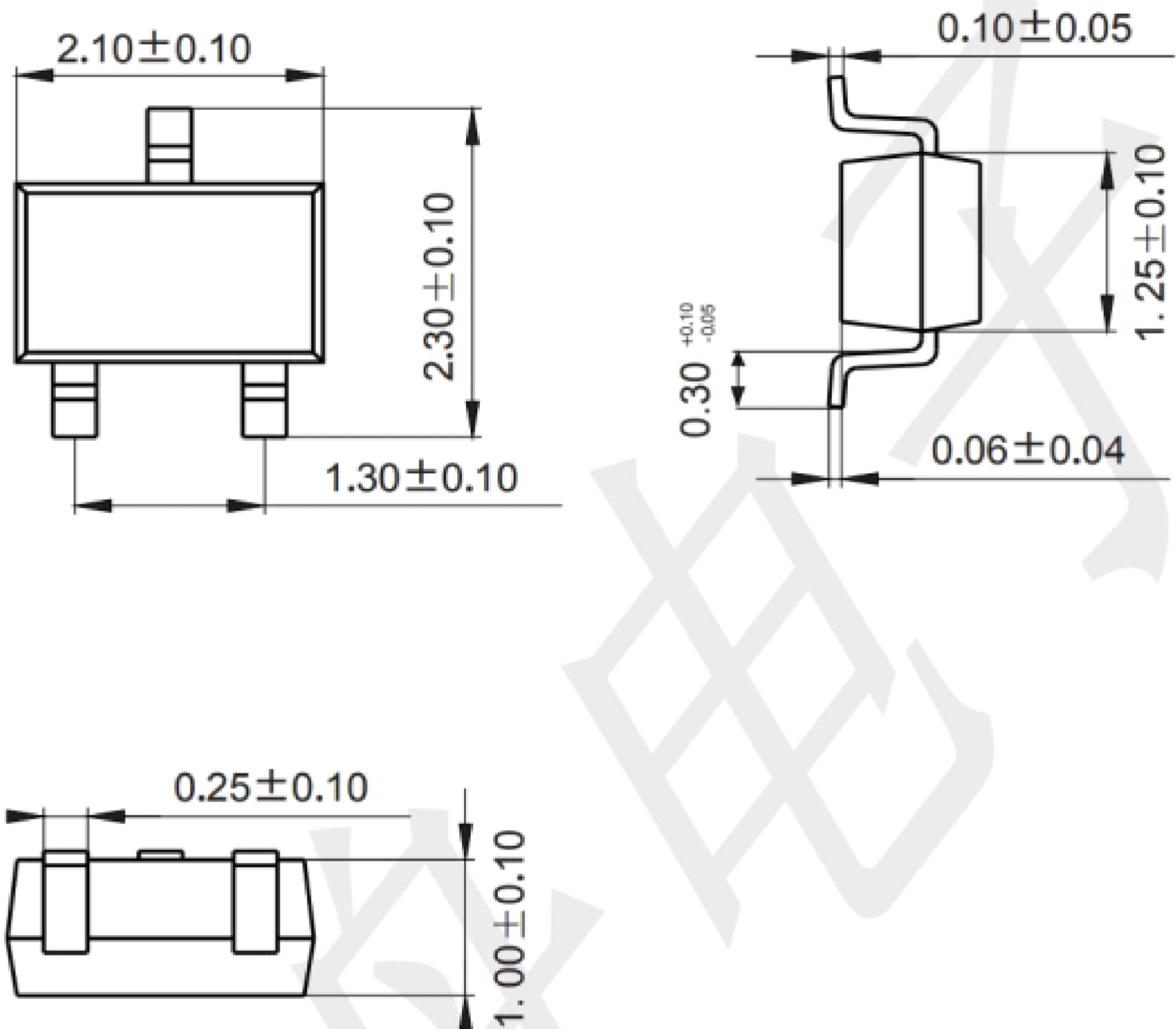
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Max.	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±12	V
Drain Current-Continuous($T_C=25^\circ\text{C}$)	I_D	1.4	A
Drain Current-Pulsed ¹	I_{DM}	6	A
Power Dissipation($T_C=25^\circ\text{C}$)	P_D	360	mW
Power Dissipation-Derate Above 25°C		1.25	mW/°C
Storage Temperature Range	T_{STG}	-55 To +150	°C
Operating Junction Temperature Range	T_J	-55 To +150	°C

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	30	-	-	V
BV_{DSS} Temperature Coefficient	$\Delta BV_{DSS}/\Delta T_J$	Reference to 25°C, $I_D=1mA$	-	-0.03	-	V/°C
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V, T_J=25^\circ C$	-	-	1	μA
		$V_{DS}=24V, V_{GS}=0V, T_J=125^\circ C$	-	-	10	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 20	μA
On Characteristics						
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=0.5A$	-	150	200	mΩ
		$V_{GS}=2.5V, I_D=0.5A$	-	200	300	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	0.8	1.5	V
$V_{GS(th)}$ Temperature Coefficient	$\Delta V_{GS(th)}$		-	-1.74	-	mV/°C
Forward Transconductance	g_{FS}	$V_{DS}=4V, I_D=0.3A$	-	1	-	S
Dynamic and Switching Characteristics						
Total Gate Charge ^{2,3}	Q_g	$V_{DS}=15V, I_D=0.3A, V_{GS}=4.5V$	-	2.6	5.2	nC
Gate-Source Charge ^{2,3}	Q_{gs}		-	0.9	1.8	
Gate-Drain Charge ^{2,3}	Q_{gd}		-	0.6	1.2	
Turn-On Delay Time ^{2,3}	$t_{d(on)}$	$V_{DD}=15V, R_G=10\Omega, V_{GS}=4.5V, I_D=0.3A$	-	5.5	11	nS
Rise Time ^{2,3}	t_r		-	4	8	
Turn-Off Delay Time ^{2,3}	$t_{d(off)}$		-	14.5	29	
Fall Time ^{2,3}	t_f		-	6.5	13	
Input Capacitance	C_{ISS}	$V_{DS}=15V, V_{GS}=0V, F=1MHz$	-	100	146	PF
Output Capacitance	C_{OSS}		-	18.3	36.6	
Reverse Transfer Capacitance	C_{RSS}		-	7.4	14.8	
Drain-Source Diode Characteristics and Maximum Ratings						
Continuous Source Current	I_S	$V_G=V_D=0V,$ Force Current	-	-	1.4	A
Pulsed Source Current	I_{SM}		-	-	6	
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=0.2A, T_J=25^\circ C$	-	-	1.2	V
Reverse Recovery Time	T_{rr}	$V_{GS}=0V, I_S=0.3A, d/d_t=100A/\mu s, T_J=25^\circ C$	-	13	-	nS
Reverse Recovery Charge	Q_{rr}		-	6	-	nC

Outline Drawing - SOT323(SC70-3)



Mounting Pad Layout (unit: mm)

