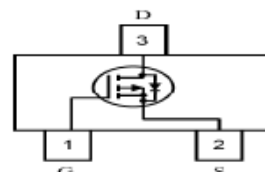


P-Channel Enhancement-Mode MOSFET
PRIMARY CHARACTERISTICS

BV_{DSS}	$R_{DS(on)MAX}$	I_D
-20V	$300m\Omega @ V_{GS} = -4.5V$	-0.8A
	$400m\Omega @ V_{GS} = -2.5V$	
	$530m\Omega @ V_{GS} = -1.8V$	

SCHEMATIC DIAGRAM
SOT-523 PACKAGE

Marking : 21E \ 39K


GENERAL DESCRIPTION

- SE2101E is P-Channel enhancement mode power MOSFET which is produced with high cell density and DMOS trench technology. This device particularly suits lowvoltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

MECHANICAL DATA

- Case : Molded plastic, SOT-523
- Polarity : Shown above
- Terminals : Plated terminals, solderable per MIL-STD-750, Method 2026
- Epoxy : UL94-V0 rated flame retardant

Absolute Maximum Ratings

Parameter		Symbol	Rating	Units
Drain-Source Voltage		V _{DS}	-20	V
Gate-Source Voltage		V _{GS}	±8	V
Drain Current (Note 1)	Continuous	I _D	-0.8	A
	Pulsed		-3	
Total Power Dissipation	@TA=25°C	PD	250	mW
	@TA=75°C		-	
Operating Junction Temperature Range		T _J	-55 to 150	°C

P-Channel Enhancement-Mode MOSFET

Electrical Characteristics (T _J =25°C unless otherwise noted)						
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS (Note 2)						
BVDSS	Drain-Source Breakdown Voltage	ID=-250μA, VGS=0 V	-20			V
IDSS	Zero Gate Voltage Drain Current	VDS=-16 V, VGS=0 V			-1	μA
IGSS	Gate-Body leakage current	VDS=0 V, VGS=±8 V			±10	μA
VGS(th)	Gate Threshold Voltage	VDS=VGS ID=-250μA	-0.35	-0.6	-1	V
RDS(O N)	Static Drain-Source On-Resistance ²	VGS=-4.50V, ID=-0.8A	-	-	300	mΩ
		VGS=-2.5V, ID=-0.5A	-	-	400	
		VGS=-1.8V, ID=-0.3A	-	-	530	
DYNAMIC PARAMETERS						
Ciss	Input Capacitance	VGS=0V, VDS=-6V, f=200KHz		200		pF
Coss	Output Capacitance			80		pF
Crss	Reverse Transfer Capacitance			150		pF
SWITCHING PARAMETERS						
td(on)	Turn-On DelayTime ²	VGS=-4.5V, VDD=-6V, RL=6Ω, RG=6Ω ID=-1A		10		ns
td(off)	Turn-Off DelayTime			62		
td(r)	Turn-On Rise Time			19		
td(f)	Turn-Off Fall Time			18		
V _{SD}	Drain-Source Diode Forward Voltage	V _{GS} =0V,I _S =-0.3A	-	-0.78	-1.2	V

Typical Characteristics

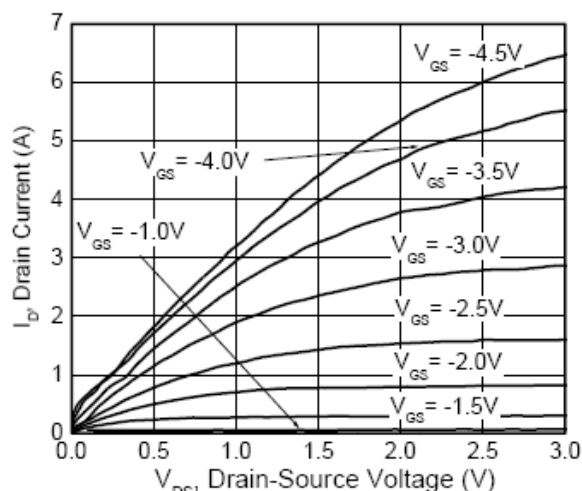


Figure 1. Output Characteristics

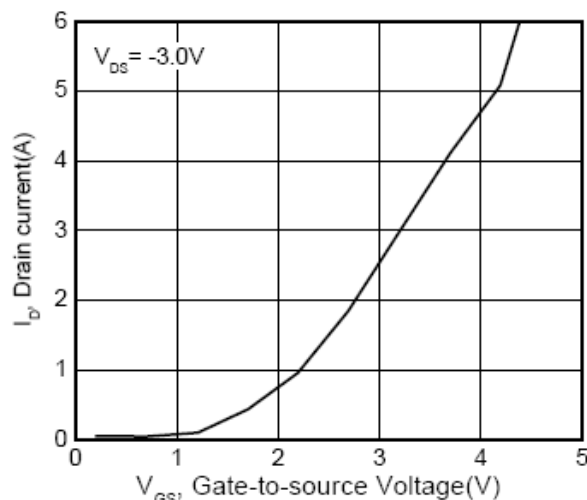


Figure 2. Transfer Characteristics



P-Channel Enhancement-Mode MOSFET

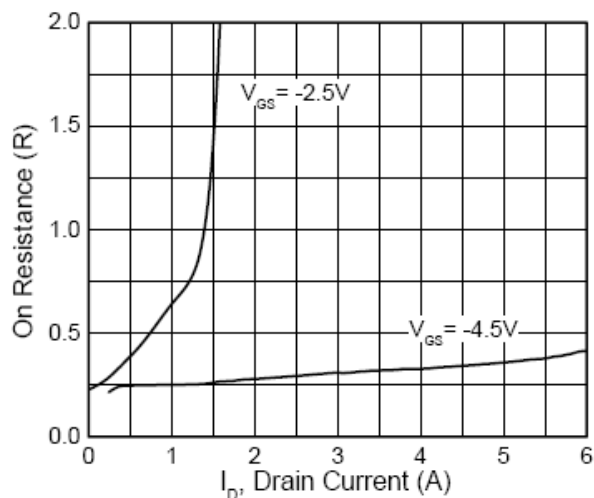


Figure 3. On Resistance VS I_D

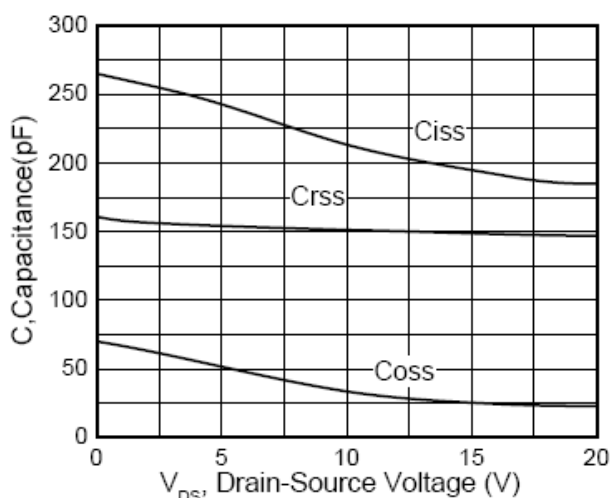


Figure 4. Capacitance

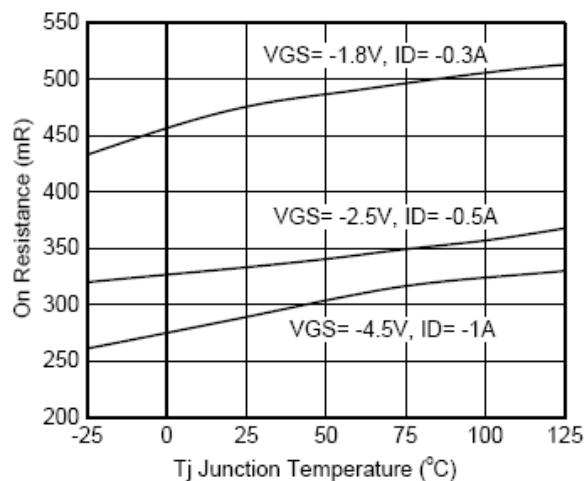


Figure 5 . On resistance VS Temperature

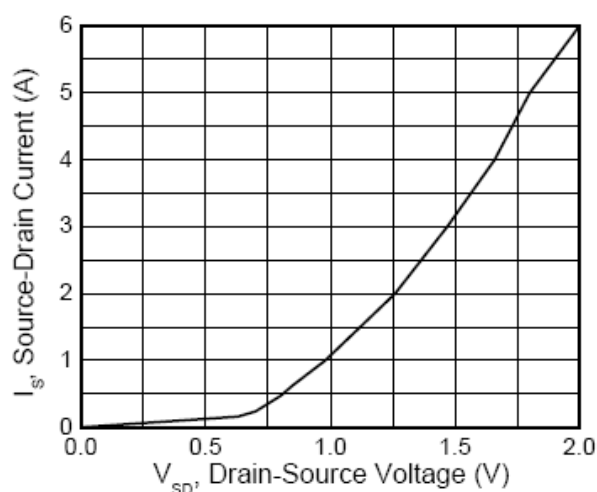


Figure 6. V_{SD} VS I_S

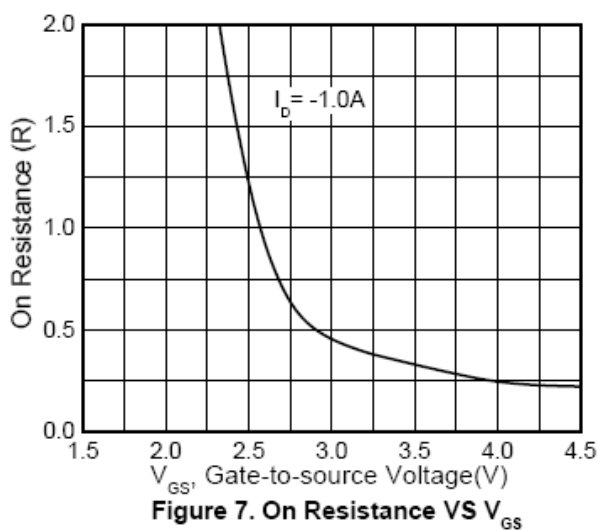


Figure 7. On Resistance VS V_{GS}

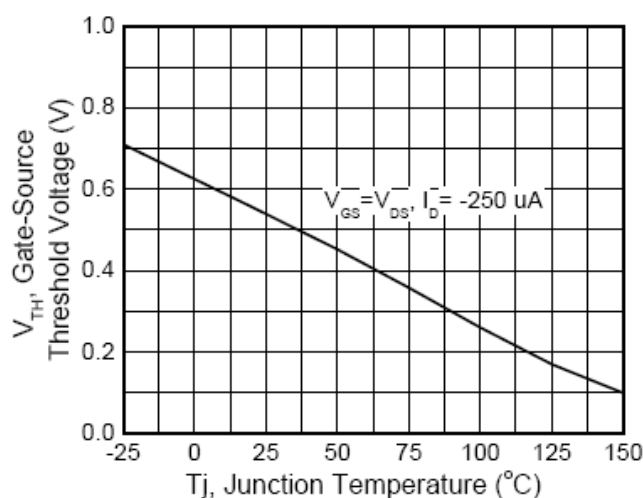
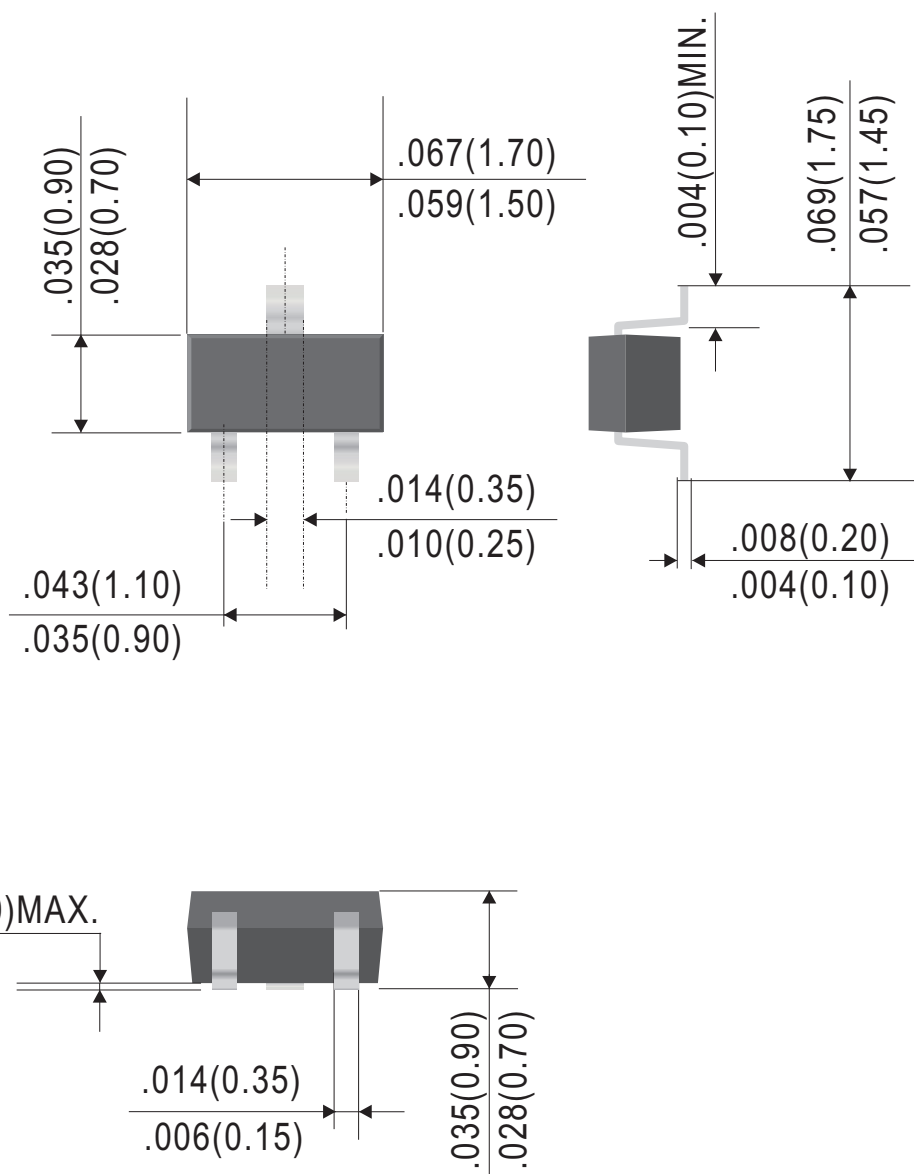


Figure 8. Gate Threshold Vs. Temperature

Outline Drawing

SOT-523



Dimensions in inches and (millimeters)

Rev.D

Ordering Information:

Device PN	Packing
SE2101E-T ⁽¹⁾ G ⁽²⁾ -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) RoHS product for packing code suffix "G" : Halogen free product for packing code suffix "H"

(3) Willas brand abbreviation, Label Type does not display

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