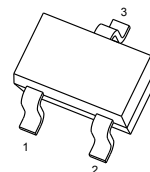
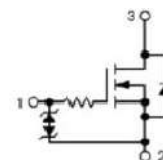


**N-Channel Enhancement-Mode MOSFET****PRIMARY CHARACTERISTICS**

BV _{DSS}	R _{DS(ON)} MAX	I _D
20V	3.0Ω@V _{GS} =4.5V	238mA
	3.5Ω@V _{GS} =2.5V	

SOT-523**PACKAGE**

1. GATE
2. SOURCE
3. DRAIN

**FEATURES**

- V_{DS} = 20V
- I_D = 238mA
- R_{DS(on)} = 1.5Ω@V_{GS}=4.5V(Typ.)
- Low Gate Charge for Fast Switching
- ESD Protected Gate

MECHANICAL DATA

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

Absolute Maximum Ratings (T_A = 25°C)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	20	V
Gate-Source Voltage		V _{GS}	±10	
Continuous Drain Current (Note 1)	Steady State = 25°C	I _D	238	mA
Pulsed Drain Current	t _p ≤ 10μs	I _{DM}	714	
Power Dissipation (Note 1)	Steady State = 25°C	P _D	300	mW
Thermal Resistance, Junction- to-Ambient (Note 1)		R _{θJA}	416	°C/W
Junction Temperature		T _J	150	°C
Storage Temperature Range		T _{stg}	-55 to 150	

Note 1: Surface-mounted on FR4 board using 1 in sq. pad size (Cu area = 1.127 in sq. [1 oz] including traces).



N-Channel Enhancement-Mode MOSFET

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=100\mu\text{A}$, $V_{GS}=0\text{V}$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20\text{V}$, $V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 10\text{V}$			± 100	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=3\text{V}$, $I_D=100\mu\text{A}$	0.5		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5\text{V}$, $I_D=10\text{mA}$		1.5	3.0	Ω
		$V_{GS}=2.5\text{V}$, $I_D=10\text{mA}$		2.0	3.5	
Forward Transconductance	g_{FS}	$V_{DS}=3\text{V}$, $I_D=10\text{mA}$		80		mS
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$, $V_{DS}=5\text{V}$, $f=1\text{MHz}$		11.5	20	pF
Output Capacitance	C_{oss}			10	15	
Reverse Transfer Capacitance	C_{rss}			3.5	6.0	
Turn-On DelayTime	$t_{d(on)}$	$V_{GS} = 4.5\text{V}$, $V_{DS} = 5\text{V}$, $I_D = 10\text{mA}$, $R_G = 10\Omega$		13		ns
Turn-On Rise Time	t_r			15		
Turn-Off DelayTime	$t_{d(off)}$			98		
Turn-Off Fall Time	t_f			60		
Diode Forward Voltage	V_{SD}	$I_{SD}=10\text{mA}$, $V_{GS}=0\text{V}$		0.66	0.80	V

Note 2: Pulse Test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

Note 3: Switching characteristics are independent of operating junction temperatures.



N-Channel Enhancement-Mode MOSFET

Typical Characteristics

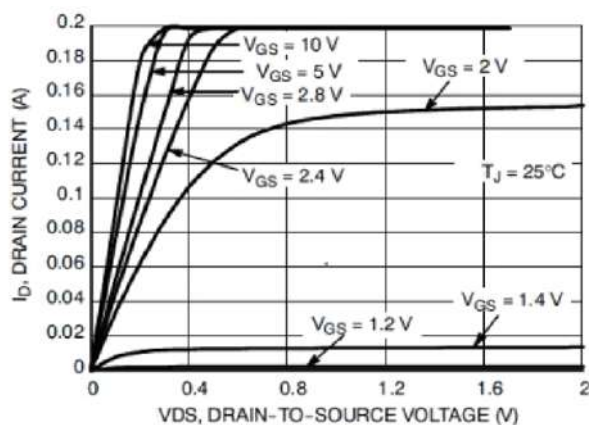


Figure 1. On-region Characteristics

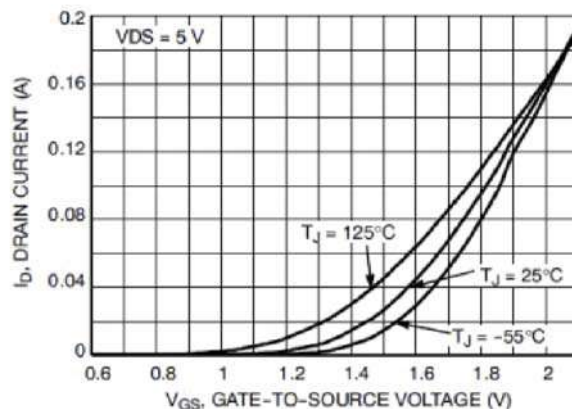


Figure 2. Transfer Characteristics

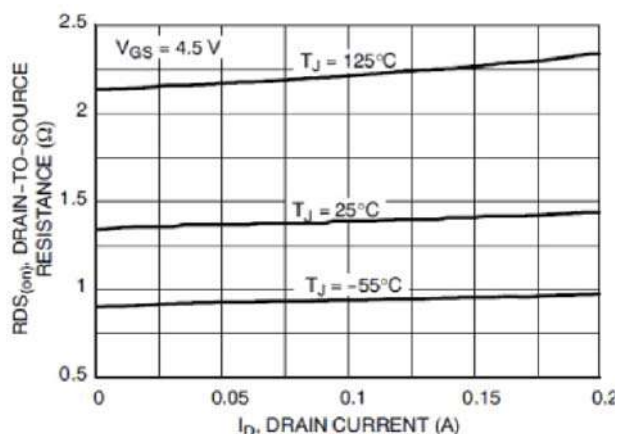


Figure 3. On-resistance versus Drain Current and Temperature

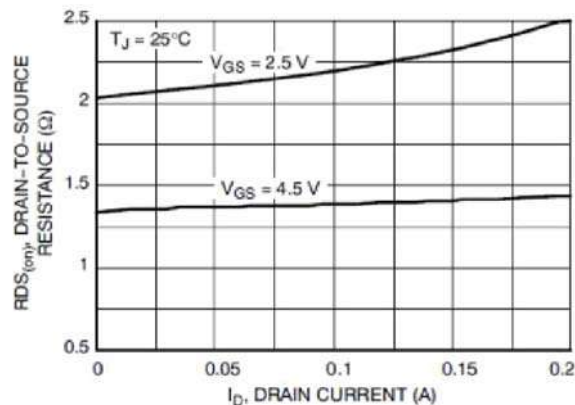


Figure 4. On-resistance versus Drain Current and Gate Voltage

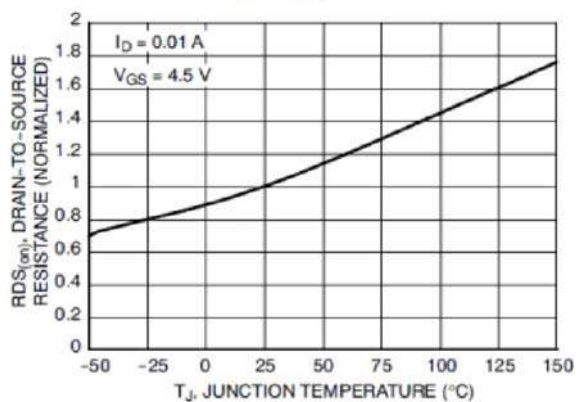


Figure 5. On-resistance Variation with Temperature

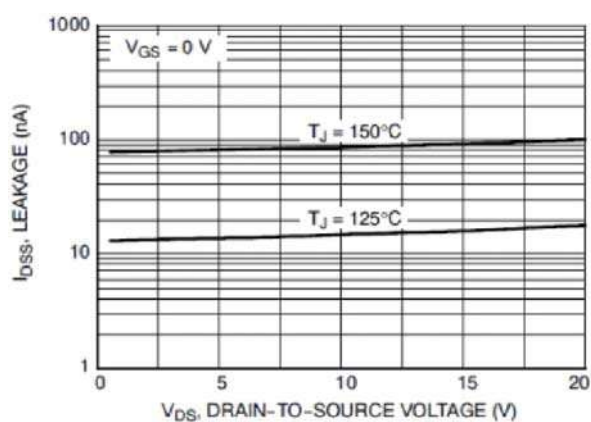
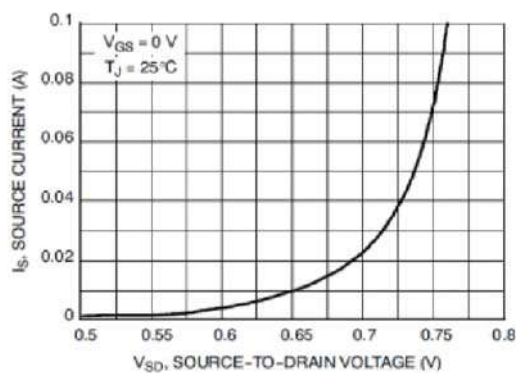
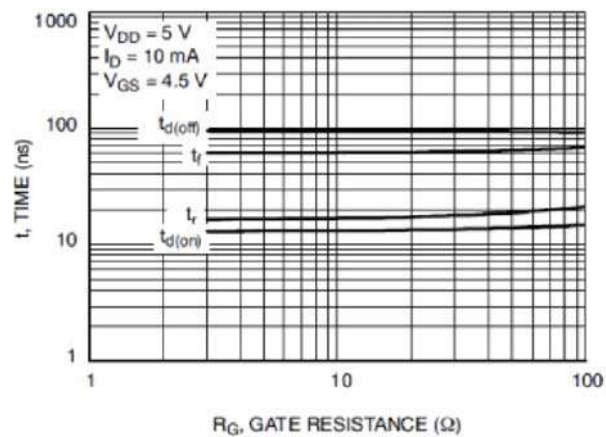
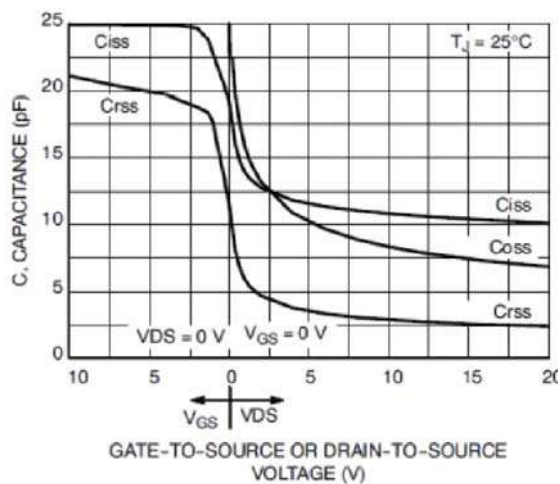


Figure 6. Drain-to-Source Leakage Current versus Voltage



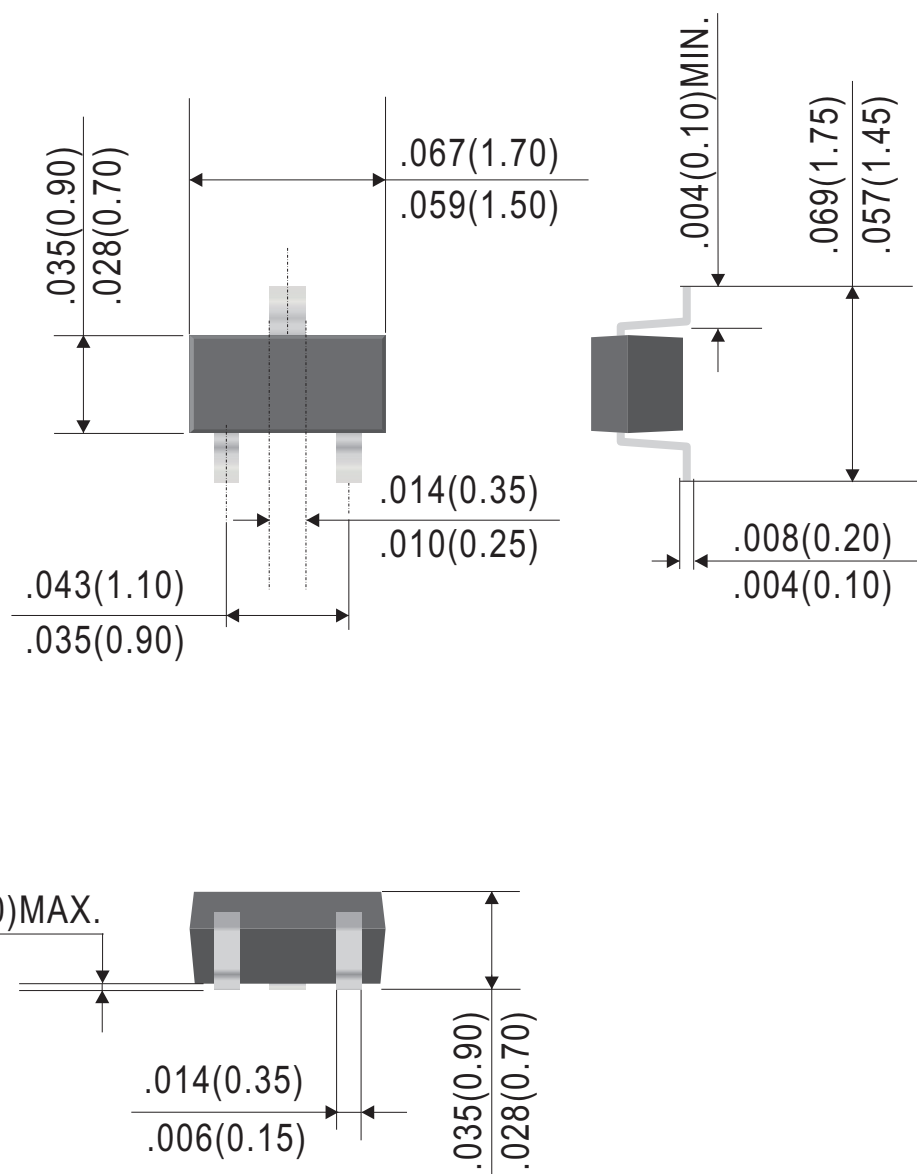
N-Channel Enhancement-Mode MOSFET





Outline Drawing

SOT-523

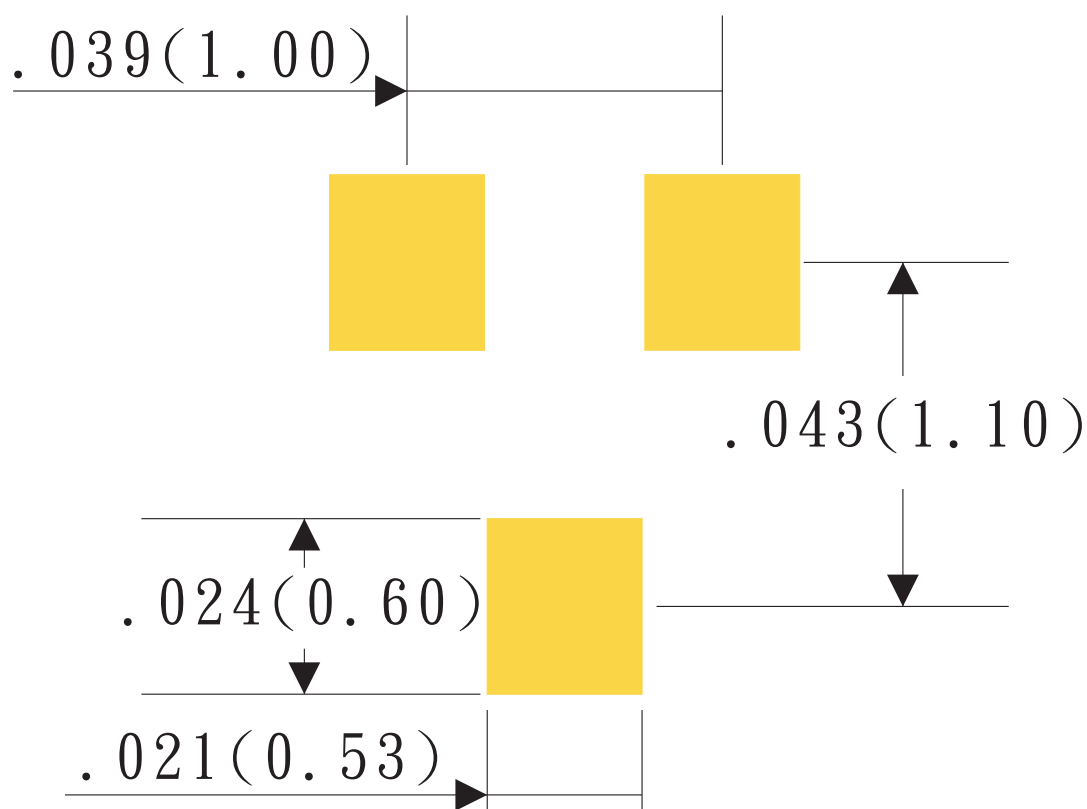


Dimensions in inches and (millimeters)

Rev.D



Suggested Soldering Pad Layout

SOT-523

Dimensions in inches and (millimeters)

RevA

**N-Channel Enhancement-Mode MOSFET****Ordering Information:**

Device PN	Packing
SE2516ET -T ⁽¹⁾ G ⁽²⁾ -WS ⁽³⁾	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) WS : Willas brand abbreviation, Label Type does not display

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