

P-Channel Enhancement Mode MOSFET

Feature

- 30V/-4.2A, $R_{DS(ON)} = 55m\Omega(MAX) @V_{GS} = -10V$.
- $R_{DS(ON)} = 70m\Omega(MAX) @V_{GS} = -4.5V$.
- $R_{DS(ON)} = 120m\Omega(MAX) @V_{GS} = -2.5V$.

Super High dense cell design for extremely low $R_{DS(ON)}$

Reliable and Rugged

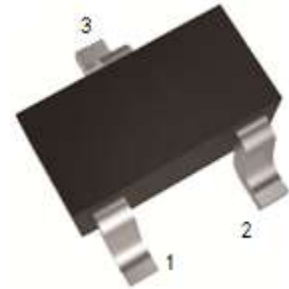
SC-59 for Surface Mount Package

Applications

Power Management

Portable Equipment and Battery Powered Systems.

SC-59



1 : Gate 2 : Source 3 : Drain

Absolute Maximum Ratings TA=25°C Unless Otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	-4.2	A

Electrical Characteristics TA=25°C Unless Otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
Off Characteristics						
Drain to Source Breakdown Voltage	BVDSS	$V_{GS}=0V, I_D=-250\mu A$	-30	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS}=-24V, V_{GS}=0V$	-	-	-1	μA
Gate Body Leakage Current, Forward	IGSSF	$V_{GS}=12V, V_{DS}=0V$	-	-	100	nA
Gate Body Leakage Current, Reverse	IGSSR	$V_{GS}=-12V, V_{DS}=0V$	-	-	-100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=-250\mu A$	-0.7	-	-1.3	V
Static Drain-source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10V, I_D=-4.2A$	-	50	55	$m\Omega$
		$V_{GS}=-4.5V, I_D=-4.0A$	-	60	70	$m\Omega$
		$V_{GS}=-2.5V, I_D=-1.0A$	-	80	120	$m\Omega$
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	VSD	$V_{GS}=0V, I_S=-1.0A$			-1.0	V



Typical Characteristics

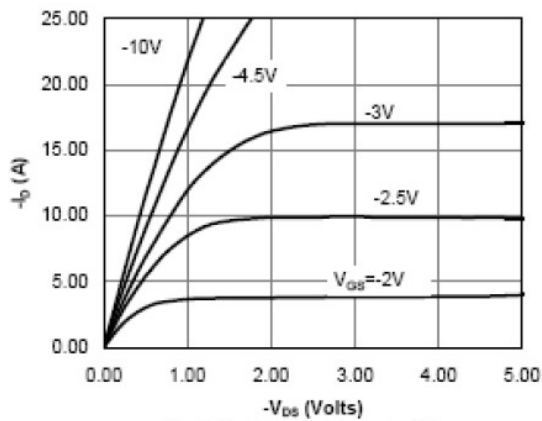


Fig 1: On-Region Characteristics

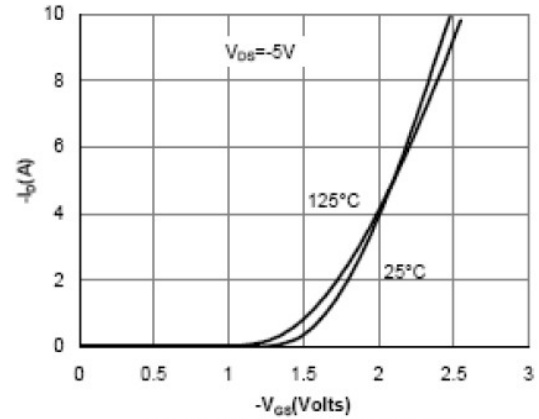


Figure 2: Transfer Characteristics

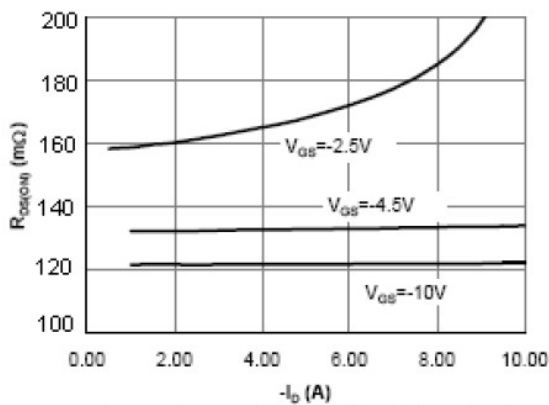


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

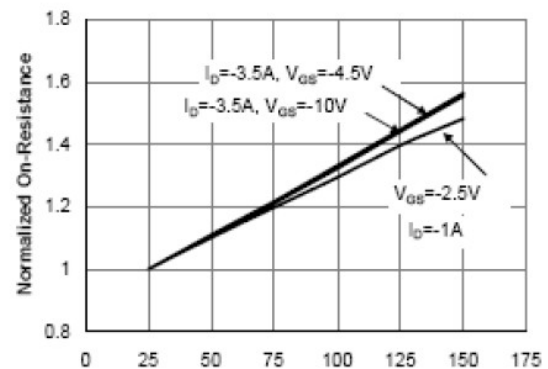


Figure 4: On-Resistance vs. Junction Temperature

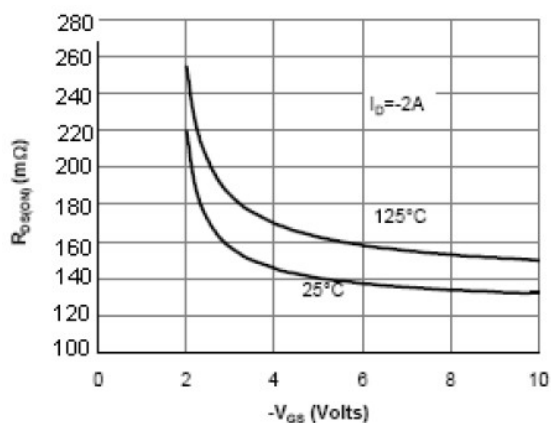


Figure 5: On-Resistance vs. Gate-Source Voltage

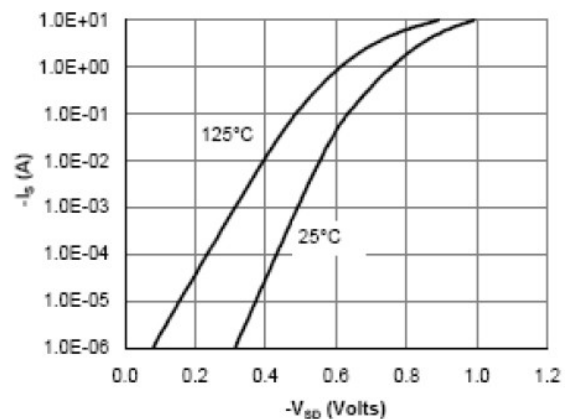


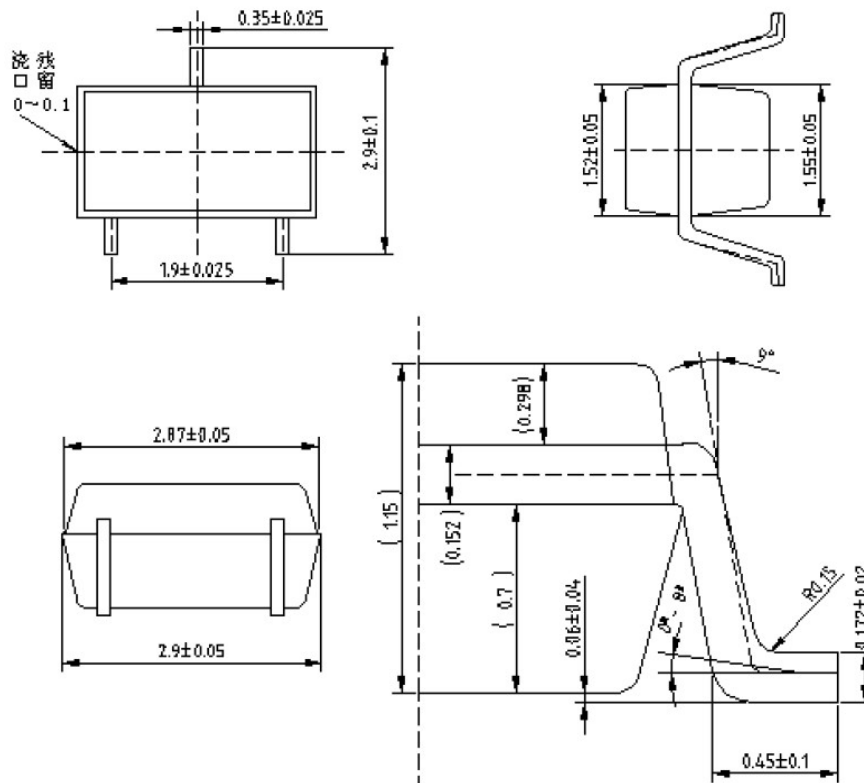
Figure 6: Body-Diode Characteristics

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Package Outline Dimensions (UNIT: mm)

SC-59



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