

N-Channel Enhancement Mode MOSFET

Feature

20V/3A, $R_{DS(ON)} = 50\text{m}\Omega(\text{MAX})$ @ $V_{GS} = 4.5\text{V}$.

$R_{DS(ON)} = 70\text{m}\Omega(\text{MAX})$ @ $V_{GS} = 2.5\text{V}$.

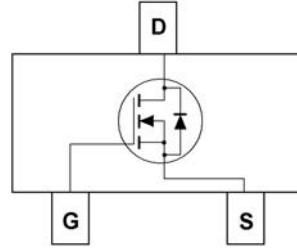
Super High dense cell design for extremely low $R_{DS(ON)}$.

Reliable and Rugged.

SOT-23 for Surface Mount Package.



SOT-23



MARKING CODE:TRE

Applications

- Power Management
- Portable Equipment and Battery Powered Systems.

Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$ Unless Otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 8	V
Drain Current-Continuous	I_D	3	A

Electrical Characteristics

$T_A = 25^\circ\text{C}$ Unless Otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
Off Characteristics						
Drain to Source Breakdown Voltage	BVDSS	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	20	-	-	V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 12\text{V}, V_{GS} = 0\text{V}$	-	-	1	μA
Gate Body Leakage Current, Forward	I_{GSSF}	$V_{GS} = 8\text{V}, V_{DS} = 0\text{V}$	-	-	100	nA
Gate Body Leakage Current, Reverse	I_{GSSR}	$V_{GS} = -8\text{V}, V_{DS} = 0\text{V}$	-	-	-100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}, I_D = 250\mu\text{A}$	0.4	-	1.3	V
Static Drain-source	$R_{DS(ON)}$	$V_{GS} = 4.5\text{V}, I_D = 3\text{A}$	-	45	60	$\text{m}\Omega$
On-Resistance		$V_{GS} = 2.5\text{V}, I_D = 2\text{A}$	-	55	70	$\text{m}\Omega$
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	VSD	$V_{GS} = 0\text{V}, I_S = 0.94\text{A}$			1.2	V



Typical Characteristics

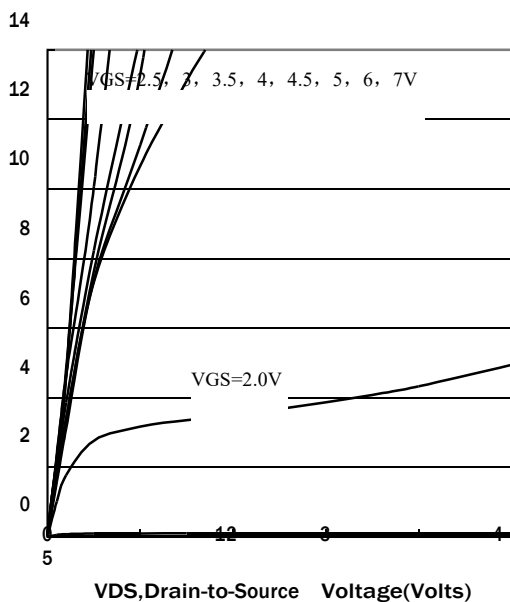


Figure 1. Output Characteristics

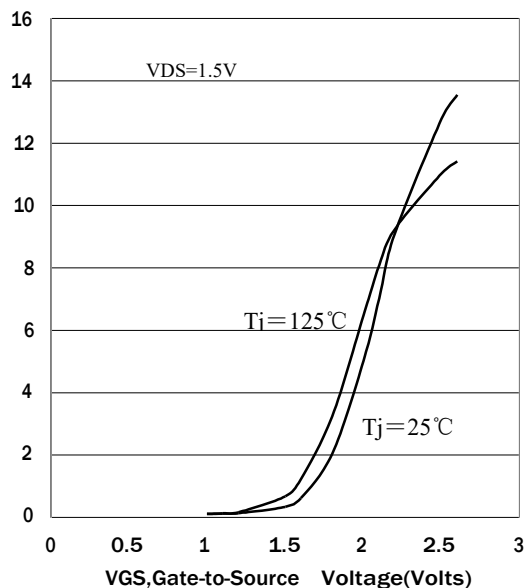


Figure 2. Transfer Characteristics

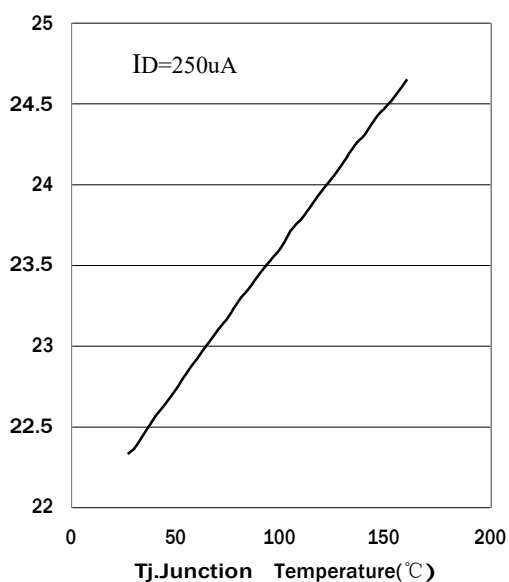


Figure 3. Breakdown Voltage Variation with Temperature

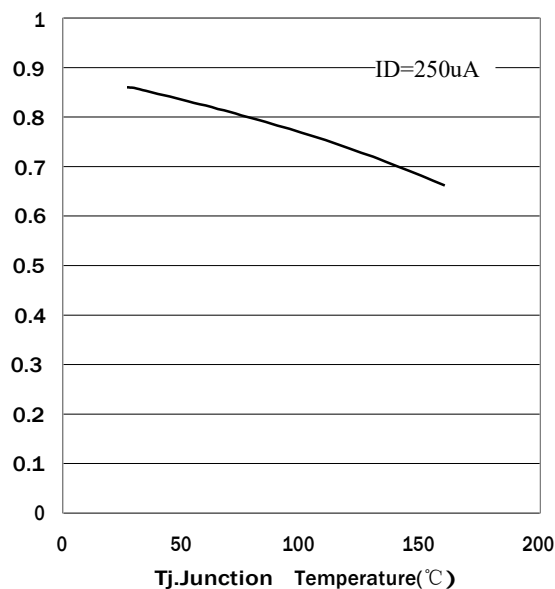


Figure 4. Gate Threshold Variation with Temperature



Typical Characteristics

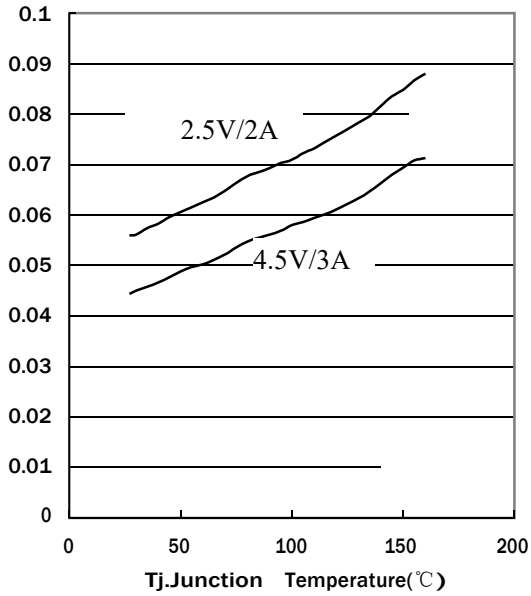


Figure 5. On-Resistance Variation with Temperature

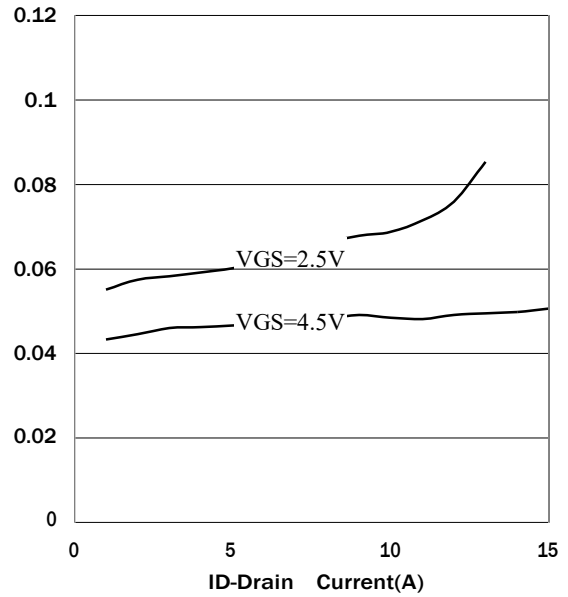


Figure 6. On-Resistance vs. Drain Current

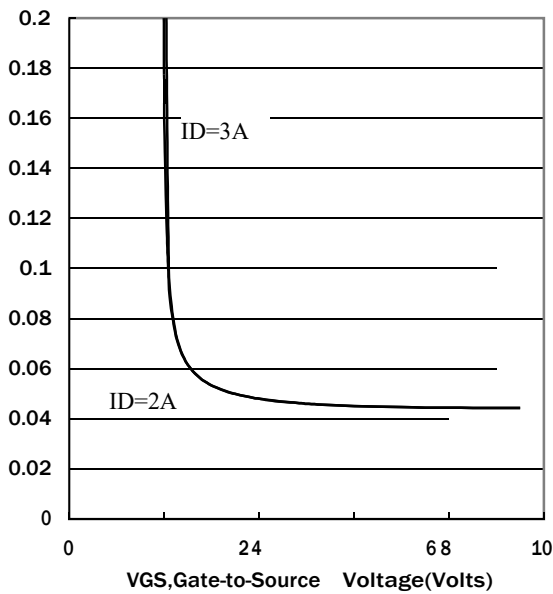


Figure 7. On-Resistance vs. Gate-to-Source Voltage

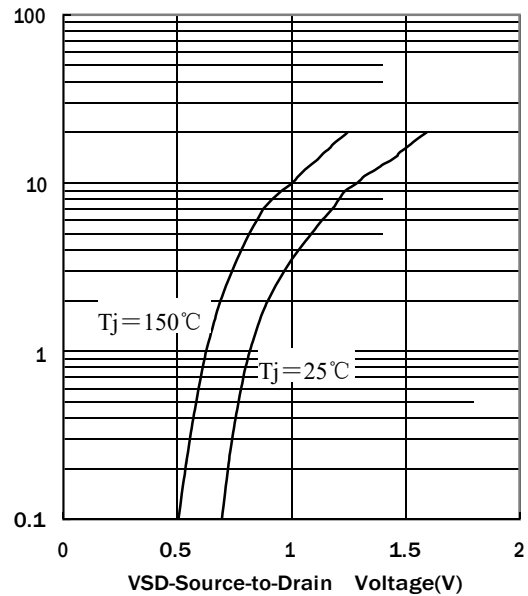
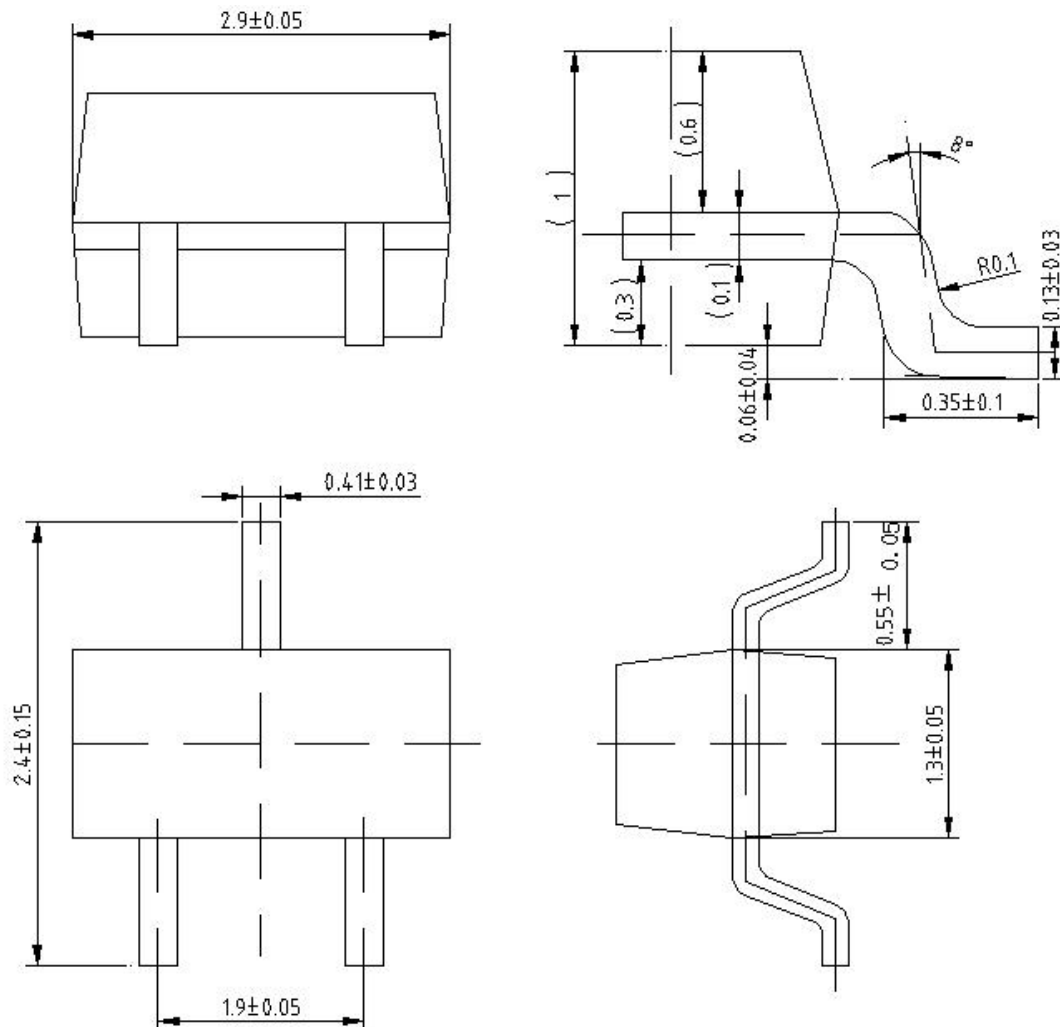


Figure 8. Source-Drain Diode Forward Voltage

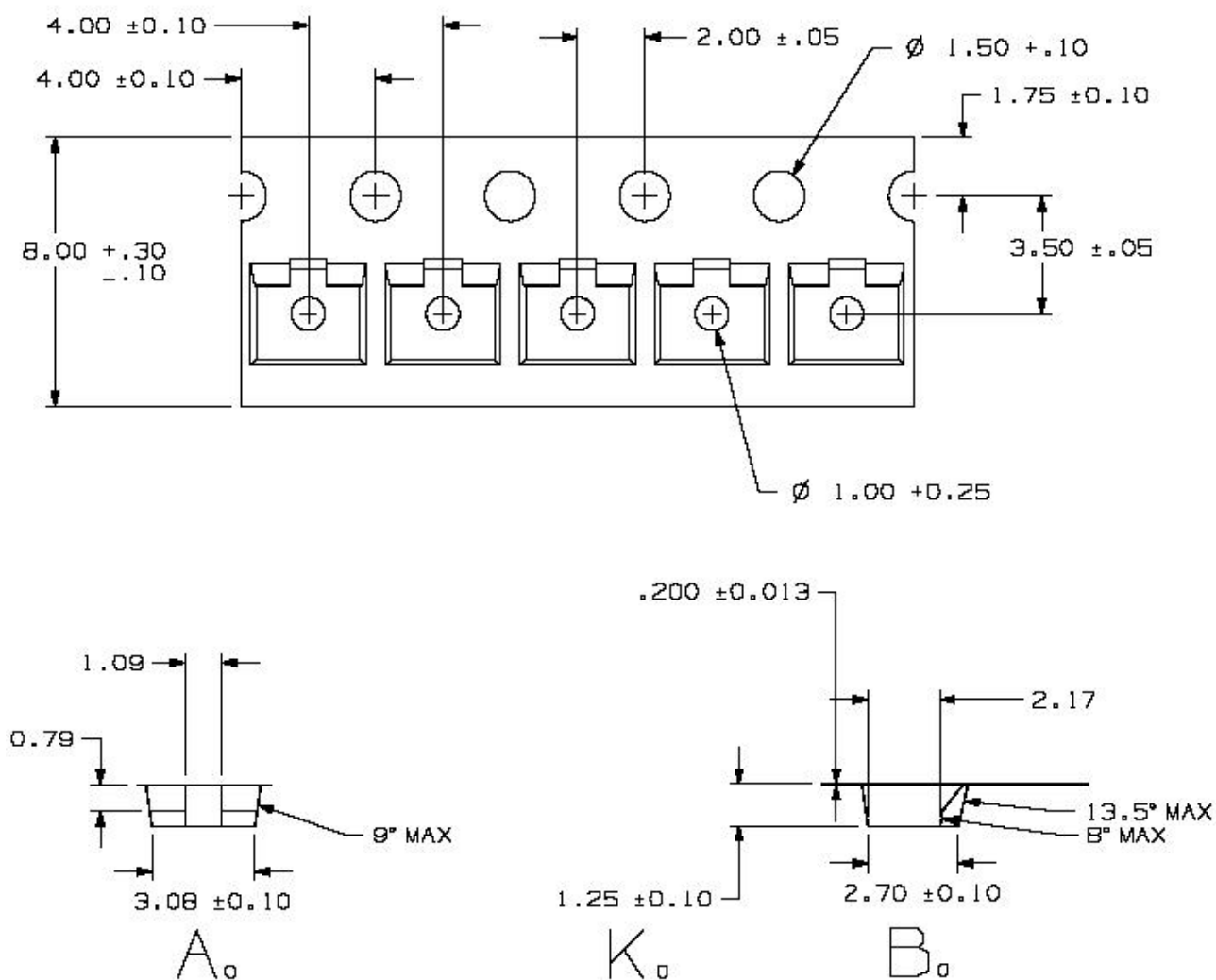


Package Outline Dimensions (UNIT: mm)

SOT-23



SOT-23 Carrier Tape



SOT-23 Carrier Reel

