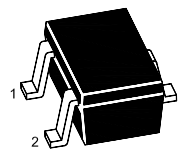
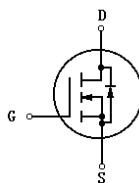


# MMBT7002W

## N-Channel Enhancement Mode Field Effect Transistor



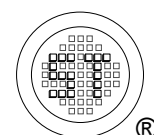
1. Gate 2. Source 3. Drain  
SOT-323 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Drain Source Voltage	$V_{DSS}$	60	V
Drain Gate Voltage ( $R_{GS} \leq 1\text{ M}\Omega$ )	$V_{DGR}$	60	V
Gate Source Voltage	$V_{GSS}$	$\pm 20$	V
		$\pm 40$	
Drain Current	$I_D$	115	mA
		800	
Total Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{Stg}$	- 55 to + 150	$^\circ\text{C}$

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Drain Source Breakdown Voltage at $I_D = 10\text{ }\mu\text{A}$	$BV_{DSS}$	60	-	V
Zero Gate Voltage Drain Current at $V_{DS} = 60\text{ V}$	$I_{DSS}$	-	1	$\mu\text{A}$
Gate Source Leakage Current at $\pm V_{GS} = 20\text{ V}$	$\pm I_{GSS}$	-	100	nA
Gate Source Threshold Voltage at $V_{DS} = V_{GS} = 10\text{ V}$ , $I_D = 250\text{ }\mu\text{A}$	$V_{GS(th)}$	1	2.5	V
Static Drain Source On Resistance at $V_{GS} = 5\text{ V}$ , $I_D = 50\text{ mA}$ at $V_{GS} = 10\text{ V}$ , $I_D = 500\text{ mA}$	$R_{DS(ON)}$	-	7.5	$\Omega$
		-	7.5	
Drain Source On Voltage at $V_{GS} = 5\text{ V}$ , $I_D = 50\text{ mA}$ at $V_{GS} = 10\text{ V}$ , $I_D = 500\text{ mA}$	$V_{DS(ON)}$	-	1.5	V
		-	3.75	
Forward Transconductance at $V_{DS} = 10\text{ V}$ , $I_D = 200\text{ mA}$	$g_{FS}$	80	-	mS
Input Capacitance at $V_{DS} = 25\text{ V}$ , $f = 1\text{ MHz}$	$C_{iss}$	-	50	pF
Output Capacitance at $V_{DS} = 25\text{ V}$ , $f = 1\text{ MHz}$	$C_{oss}$	-	25	pF
Reverse Transfer Capacitance at $V_{DS} = 25\text{ V}$ , $f = 1\text{ MHz}$	$C_{rss}$	-	5	pF
Turn On Time at $V_{DD} = 30\text{ V}$ , $R_L = 150\Omega$ , $I_D = 0.2\text{ A}$ , $V_{GS} = 10\text{ V}$ , $R_{GEN} = 25\Omega$	$t_{on}$	-	20	ns
Turn Off Time at $V_{DD} = 30\text{ V}$ , $R_L = 150\Omega$ , $I_D = 0.2\text{ A}$ , $V_{GS} = 10\text{ V}$ , $R_{GEN} = 25\Omega$	$t_{off}$	-	20	ns



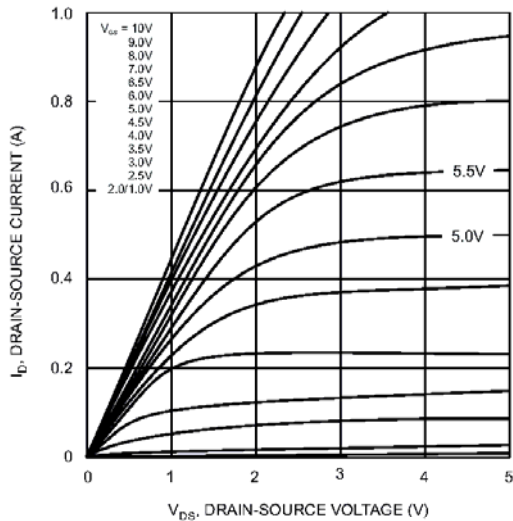


Fig. 1 On-Region Characteristics

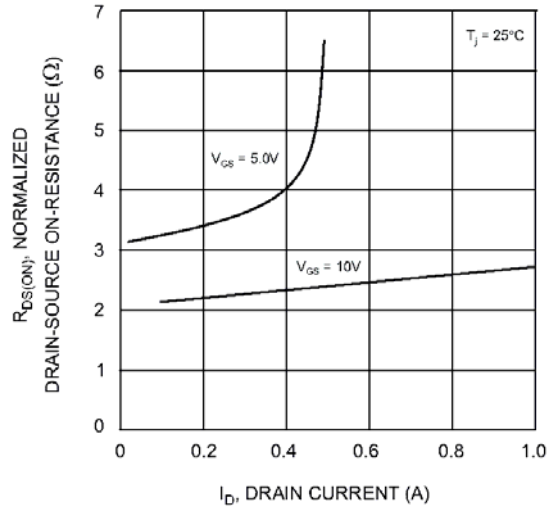


Fig. 2 On-Resistance vs Drain Current

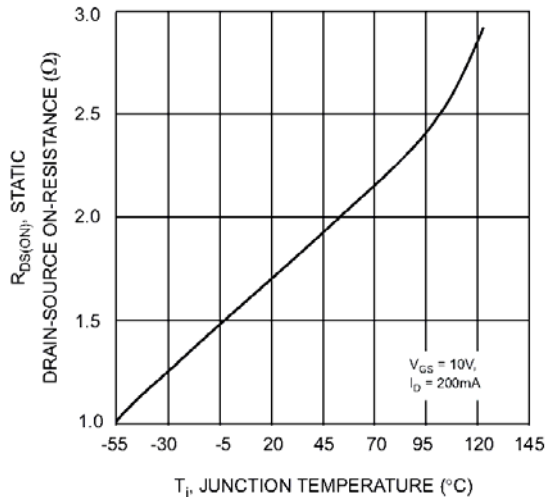


Fig. 3 On-Resistance vs Junction Temperature

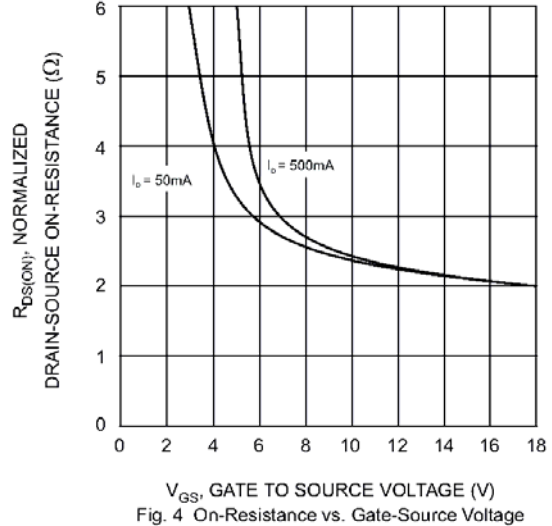


Fig. 4 On-Resistance vs. Gate-Source Voltage

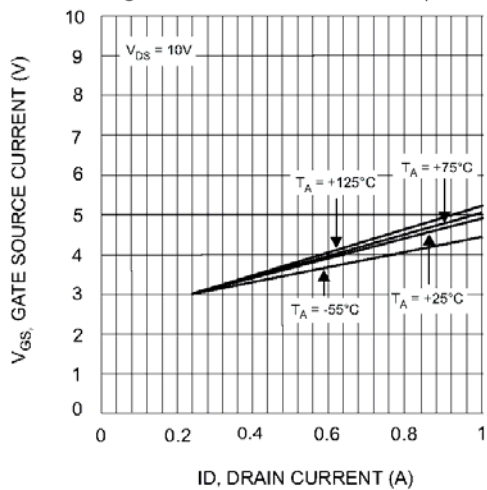
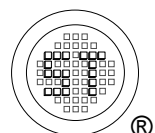
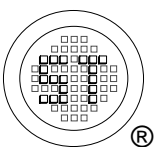
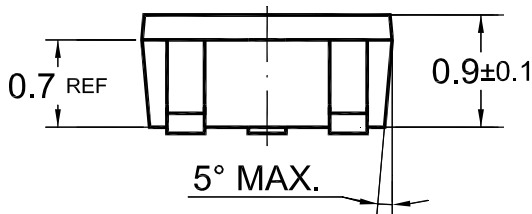
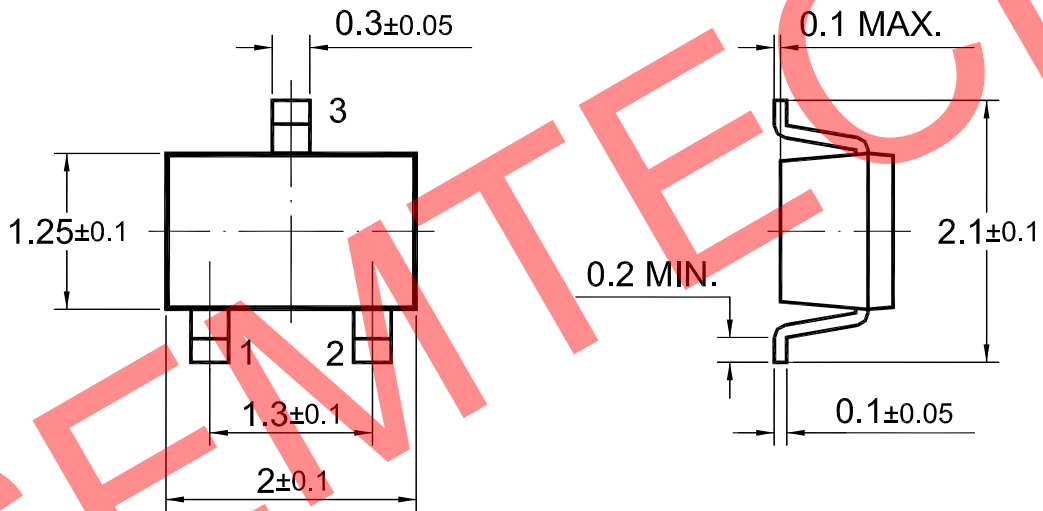
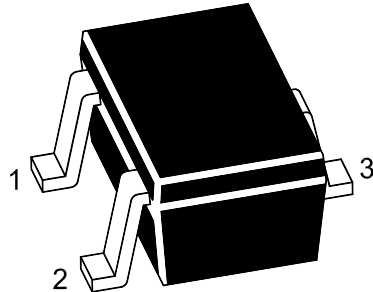


Fig. 5 Typical Transfer Characteristics



# SOT-323 Package Outline

Package Outline Dimensions (Units: mm)



**SEMTECH ELECTRONICS LTD.**  
Subsidiary of Sino-Tech International (BVI) Limited



Dated : 23/10/2010 Rev:01

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET](#) category:*

*Click to view products by [Semtech](#) manufacturer:*

Other Similar products are found below :

[614233C](#) [648584F](#) [IRFD120](#) [IRFF430](#) [JANTX2N5237](#) [2N7000](#) [FCA20N60\\_F109](#) [FDZ595PZ](#) [2SK2267\(Q\)](#) [2SK2545\(Q,T\)](#) [405094E](#)  
[423220D](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [SSM6J414TU,LF\(T](#) [751625C](#) [PSMN4R2-30MLD](#) [TK31J60W5,S1VQ\(O](#)  
[2SK2614\(Te16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [FCAB21350L1](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#) [NTE2384](#) [NTE2969](#)  
[NTE6400A](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [SSM6P54TU,LF](#) [DMP22D4UFO-7B](#) [IPS60R3K4CEAKMA1](#)  
[DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [STU5N65M6](#) [C3M0021120D](#) [DMN13M9UCA6-7](#) [BSS340NWH6327XTSA1](#)  
[MCM3400A-TP](#) [DMTH10H4M6SPS-13](#) [IPS60R1K0PFD7SAKMA1](#) [IPS60R360PFD7SAKMA1](#) [IPS60R600PFD7SAKMA1](#)  
[IPS60R210PFD7SAKMA1](#) [DMN2990UFB-7B](#) [ISZ040N03L5ISATMA1](#)