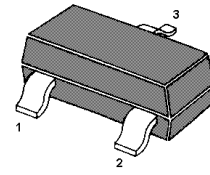
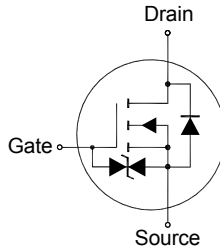


MMBT7002K

N-Channel Enhancement Mode Field Effect Transistor

Features

- Low on resistance $R_{DS(ON)}$
- Low gate threshold voltage
- Low input capacitance
- ESD protected up to 2KV



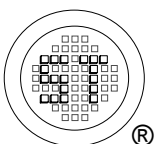
1. Gate 2. Source 3. Drain
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Continuous)	I_D	300	mA
Drain Current (Pulse Width $\leq 10\ \mu\text{s}$)	I_{DM}	800	mA
Total Power Dissipation	P_{tot}	350	mW
Operating and Storage Temperature Range	T_J, T_s	- 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 $I_D = 10\ \mu\text{A}$	BV_{DSS}	60	-	V
Zero Gate Voltage Drain Current at $V_{DS} = 60\ \text{V}$	I_{DSS}	-	1	μA
Gate-Source Leakage Current at $V_{GS} = \pm 20\ \text{V}$	I_{GSS}	-	± 10	μA
Gate Threshold Voltage at $V_{DS} = 10\ \text{V}, I_D = 250\ \mu\text{A}$	$V_{GS(th)}$	1	2.5	V
Static Drain-Source On-Resistance at $V_{GS} = 10\ \text{V}, I_D = 500\ \text{mA}$ at $V_{GS} = 5\ \text{V}, I_D = 50\ \text{mA}$	$R_{DS(ON)}$	-	2 3	Ω
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



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002 Certificate No. 05103
ISO 14001:2004 Certificate No. 7116
ISO 9001:2000 Certificate No. 0506098

Dated: 04/04/2008

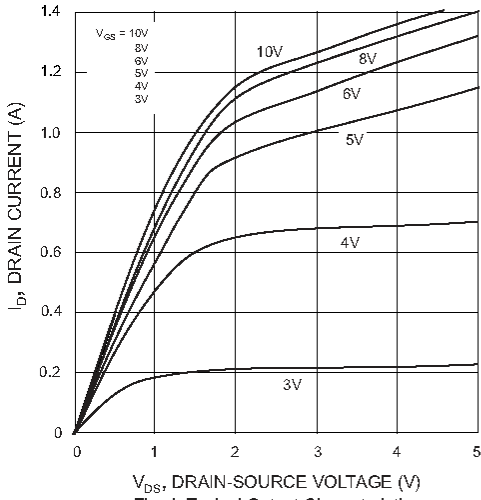


Fig. 1 Typical Output Characteristics

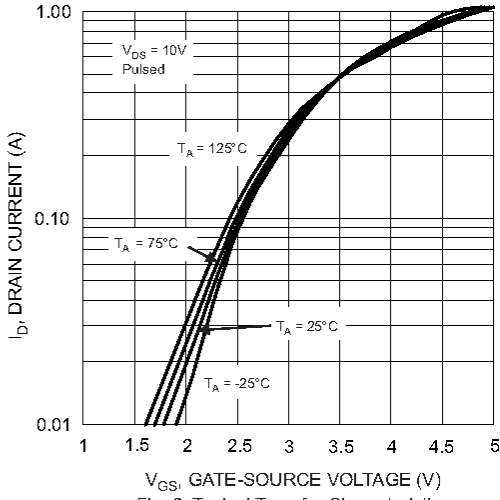


Fig. 2 Typical Transfer Characteristics

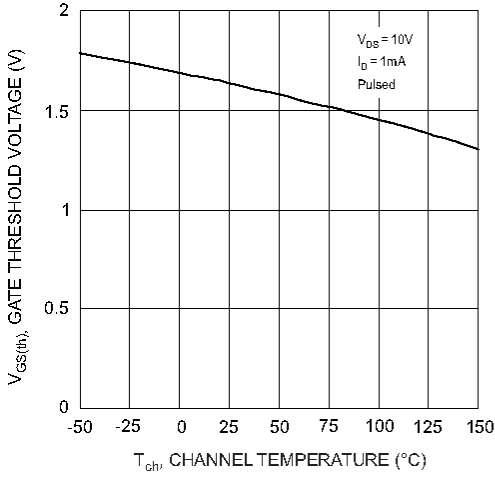


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

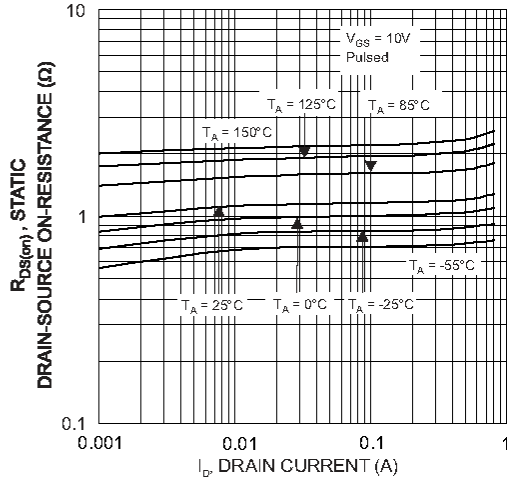


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

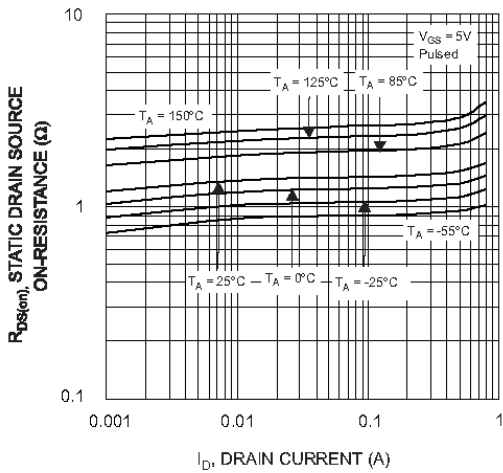


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

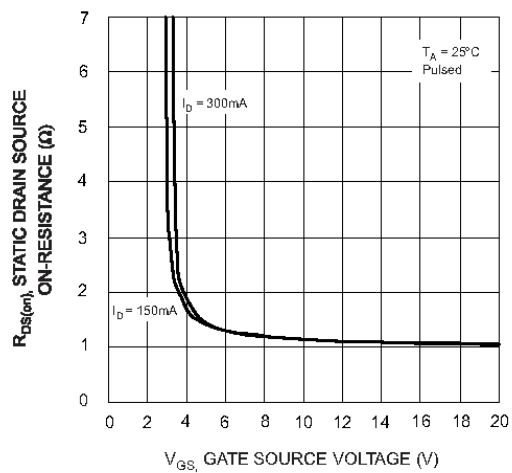
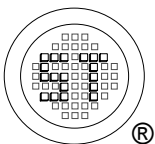


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage



SEMTECH ELECTRONICS LTD.
 (Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002 Certificate No. 05103
 ISO 14001:2004 Certificate No. 7116
 ISO 9001:2000 Certificate No. 0506098

Dated: 04/04/2008