

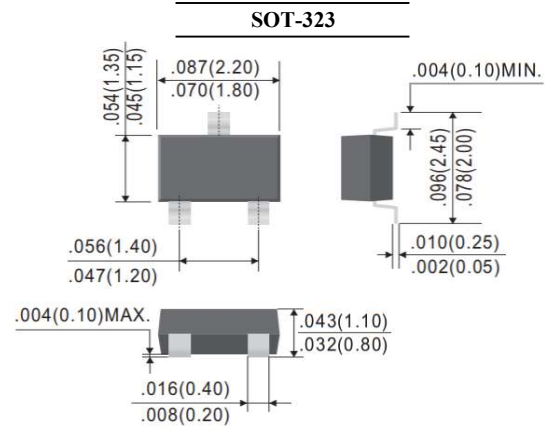
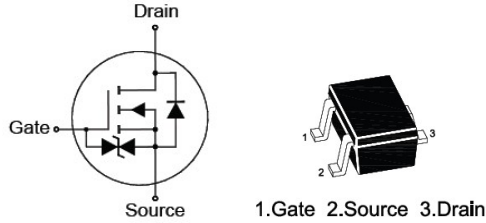


MMBT7002KW

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 1KV
- Suffix "H" indicates Halogen-free parts, ex. MMBT7002KWH



Dimensions in inch and (millimeter)

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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}	200	mW
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Test Conditions	Symbol	Min.	Max.	Unit
Drain Source Breakdown Voltage	$I_D = 10 \mu\text{A}$	BV_{DSS}	60	-	V
Zero Gate Voltage Drain Current	$V_{DS} = 60 \text{ V}$	I_{DSS}	-	1	μA
Gate Source Leakage Current	$V_{GS} = \pm 20 \text{ V}$	I_{GSS}	-	± 10	μA
Gate Threshold Voltage	$V_{DS} = 10 \text{ V}, I_D = 250 \mu\text{A}$	$V_{GS(th)}$	1.0	2.5	V
Static Drain Source On-Resistance	$V_{GS} = 10 \text{ V}, I_D = 500 \text{ mA}$	$R_{DS(ON)}$	-	3	Ω
	$V_{GS} = 4.5 \text{ V}, I_D = 200 \text{ mA}$		-	4	
Forward Transconductance	$V_{DS} = 10 \text{ V}, I_D = 200 \text{ mA}$	g_{FS}	80	-	mS
Input Capacitance	$V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{iss}	-	50	pF
Output Capacitance	$V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{oss}	-	25	pF
Reverse Transfer Capacitance	$V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{rss}	-	5	pF



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RATINGS AND CHARACTERISTIC CURVES

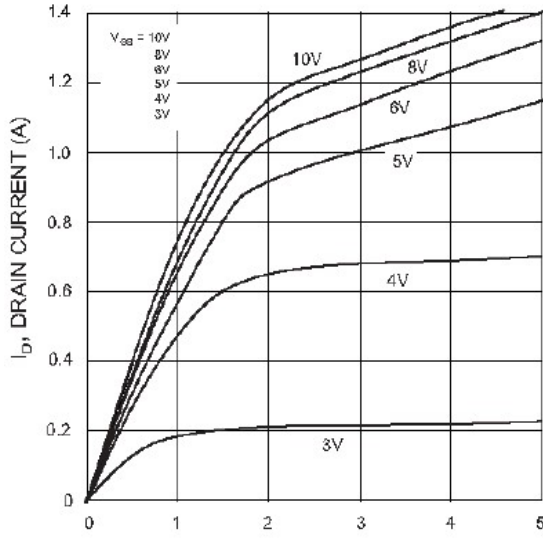


Fig. 1 Typical Output Characteristics

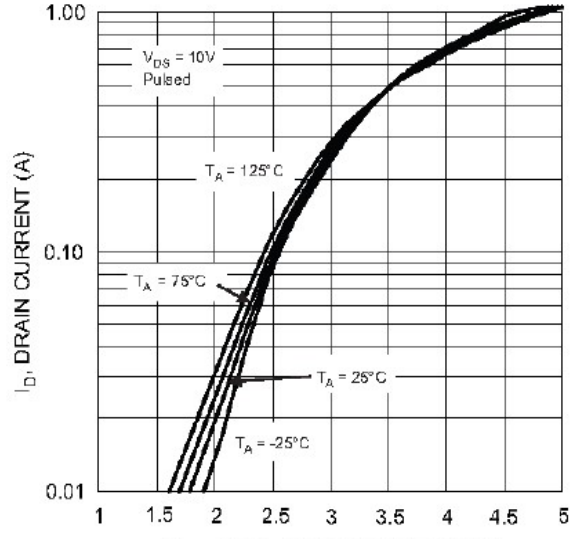


Fig. 2 Typical Transfer Characteristics

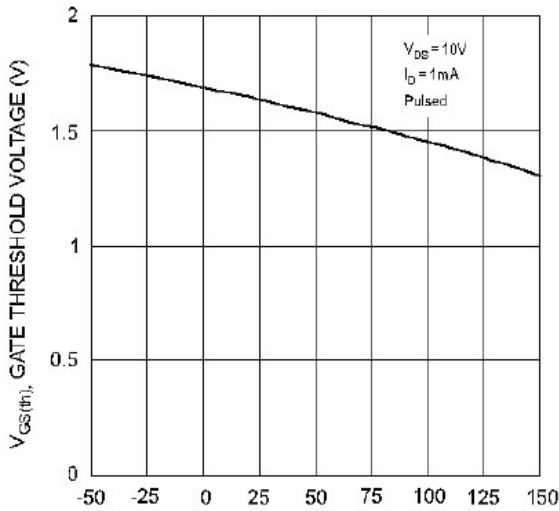


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

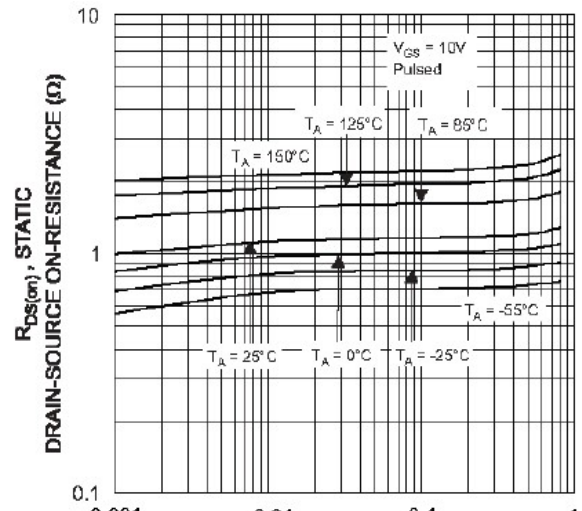


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

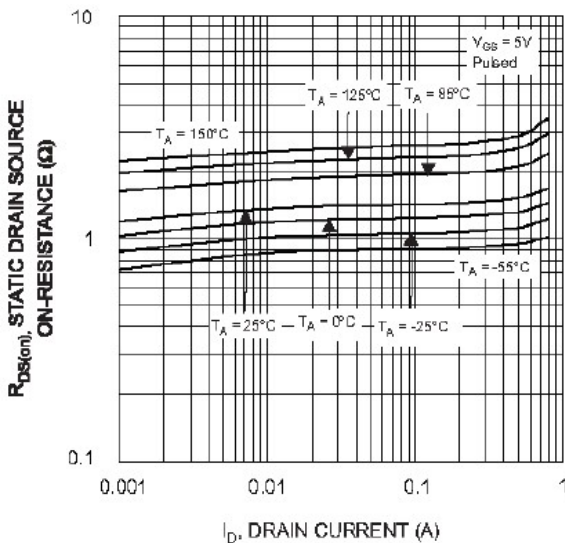


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

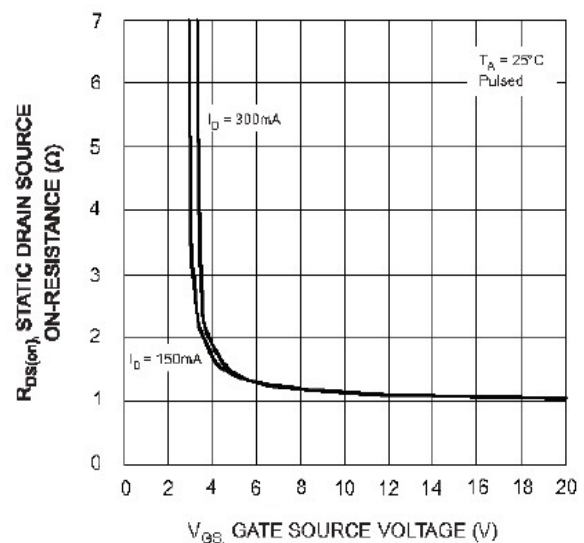


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage