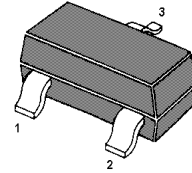
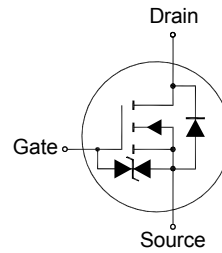


MMBT7002V-HAF

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
- Halogen and Antimony Free(HAF), RoHS compliant



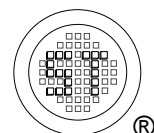
1.Gate 2.Source 3.Drain
SOT-23 Plastic Package

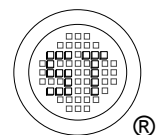
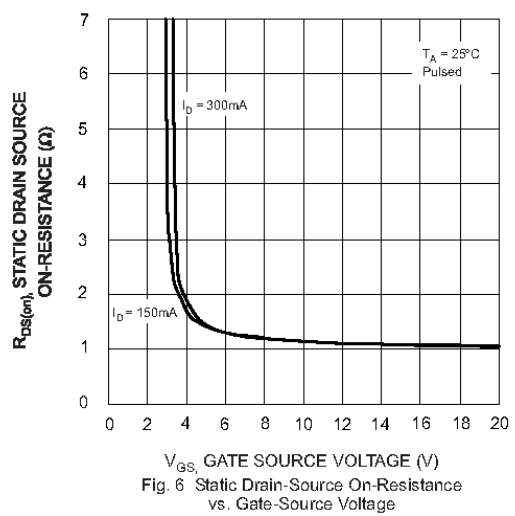
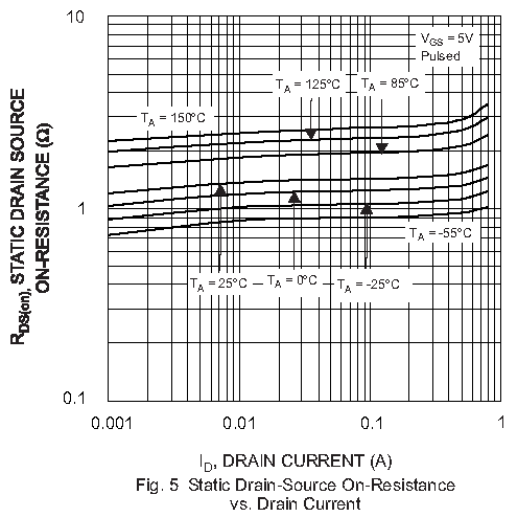
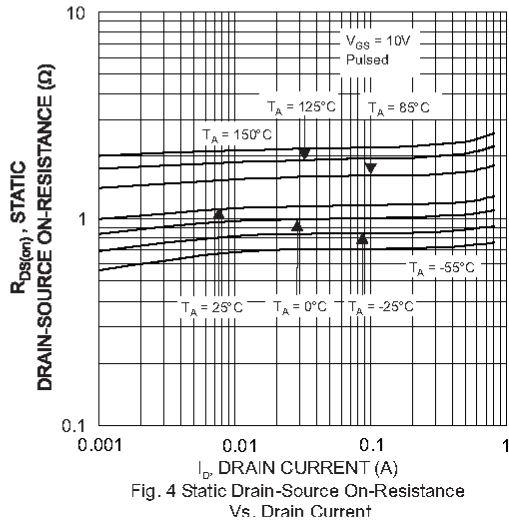
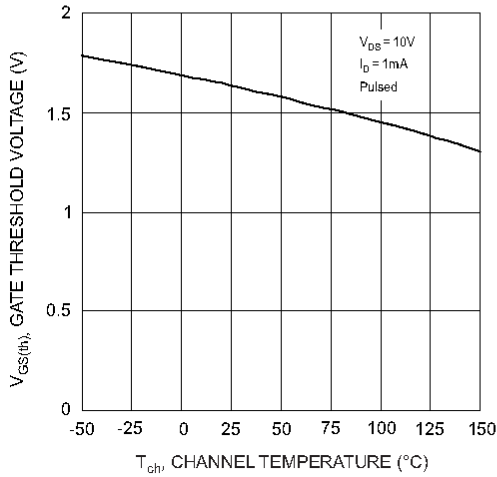
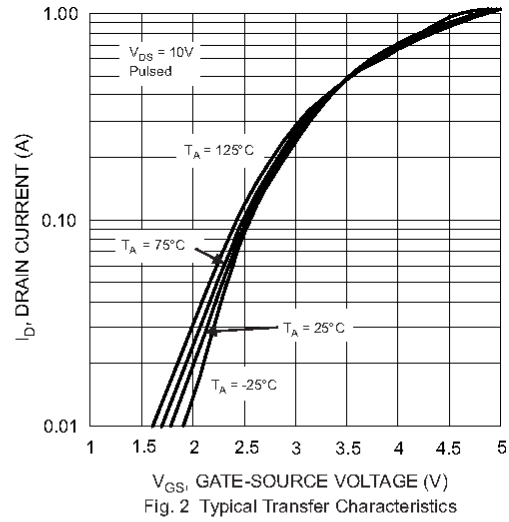
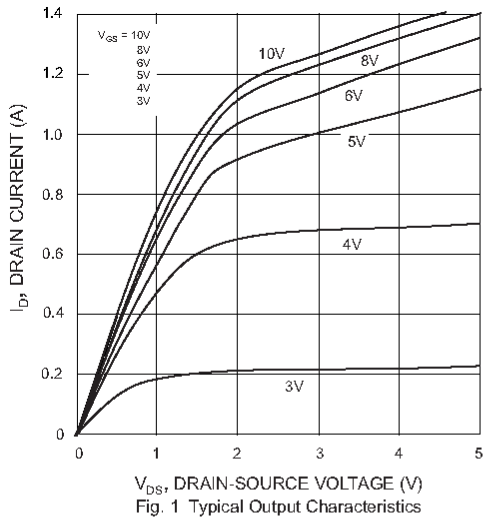
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

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 $\leq 10\text{ }\mu\text{s}$)	I_{DM}	800	mA
Total Power Dissipation	P_{tot}	350	mW
Operating and Storage Temperature Range	T_j, 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	μA
Gate Source Leakage Current at $V_{GS} = \pm 20\text{ V}$	I_{GSS}	-	± 10	μA
Gate Threshold Voltage at $V_{DS} = 10\text{ V}, I_D = 250\text{ }\mu\text{A}$	$V_{GS(th)}$	1	2.5	V
Static Drain Source On-Resistance at $V_{GS} = 10\text{ V}, I_D = 500\text{ mA}$ at $V_{GS} = 4.5\text{ V}, I_D = 200\text{ mA}$	$R_{DS(ON)}$	-	3.75 4	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



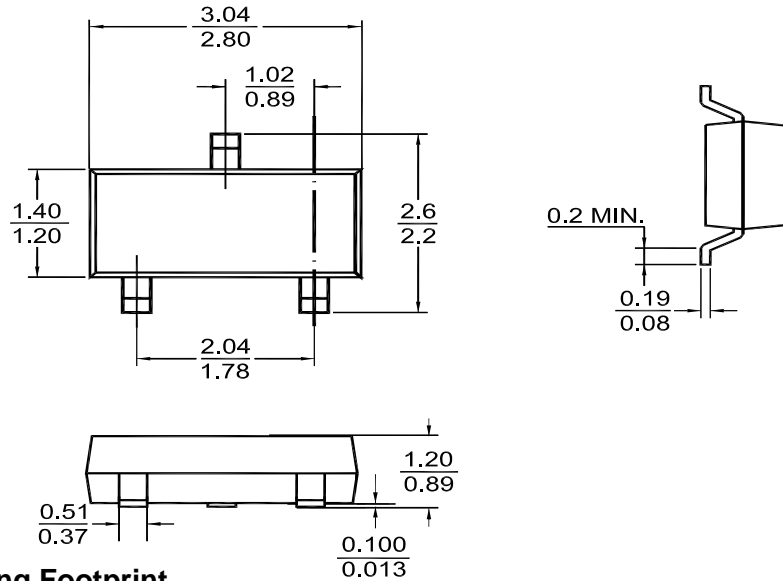


MMBT7002V-HAF

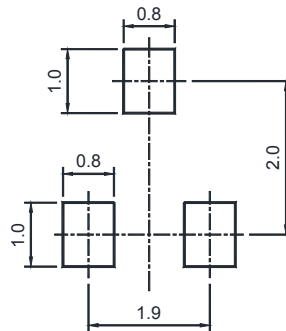
PACKAGE OUTLINE

Plastic surface mounted package (Dimensions in mm)

SOT-23



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

- " 1K " = Part No.
 - " • " = HAF (Halogen and Antimony Free)
 - "YM" = Date Code Marking
 - "Y" = Year
 - "M" = Month
- Font type: Arial

