

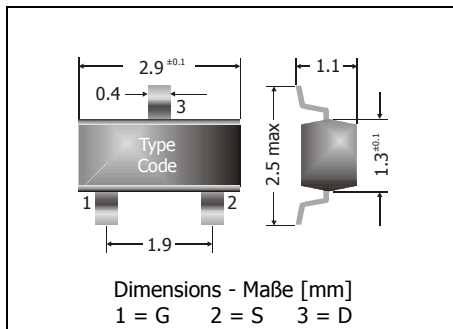
MMBT7002

N

N-Channel Enhancement Mode Field Effect Transistor
N-Kanal Feldeffekt Transistor - Anreicherungstyp

N

Version 2011-02-01



Power dissipation – Verlustleistung

200 mW

Plastic case
 Kunststoffgehäuse

SOT-23
 (TO-236)

Weight approx. – Gewicht ca.

0.01 g

Plastic material has UL classification 94V-0
 Gehäusematerial UL94V-0 klassifiziert

Standard packaging taped and reeled
 Standard Lieferform gegurtet auf Rolle



Maximum ratings (T_A = 25°C)

Grenzwerte (T_A = 25°C)

		MMBT7002	
Drain-Source-voltage – Drain-Source-Spannung	V _{DSS}	60 V	
Drain-Gate-voltage – Drain-Gate-Spannung	R _{GS} ≤ 1 MΩ	V _{DGR}	60 V
Gate-Source-voltage – Gate-Source-Spannung	dc t _p < 50 μs	V _{GSS} V _{GSS}	± 20 V ± 40 V
Power dissipation – Verlustleistung	P _{tot}	200 mW	
Drain current continuos – Drainstrom (dc)	I _D	115 mA	
Peak Drain current – Drain-Spitzenstrom	I _{DM}	800 mA	
Operating Junction temperature – Sperrschichttemperatur	T _j	150°C	
Storage temperature – Lagerungstemperatur	T _S	-55...+150°C	

Characteristics (T_j = 25°C)
Kennwerte (T_j = 25°C)

		Min.	Typ.	Max.
Drain-Source breakdown voltage – Drain-Source-Durchbruchspannung $I_D = 10 \mu A$	BV_{DSS}	60 V		
Drain-Source leakage current – Drain-Source-Leckstrom $V_{DS} = 60 V$	G short I_{DSS}		1 μA	
Gate-Body leakage current – Gate-Substrat-Leckstrom $V_{GS} = 20 V$	$\pm I_{GSS}$		100 nA	
Gate-Threshold voltage – Gate-Source Schwellspannung $V_{GS} = V_{DS}, I_D = 250 \mu A$	$V_{GS(th)}$	1 V	2.5 V	
Drain-Source on-voltage – Drain-Source-Spannung				
$V_{GS} = 10 V, I_D = 500 mA$ $V_{GS} = 5 V, I_D = 50 mA$	$V_{DS(on)}$		3.75 V 1.5 V	
Drain-Source on-state resistance – Drain-Source Einschaltwiderstand $V_{GS} = 10 V, I_D = 500 mA$	$R_{DS(on)}$		7.5 Ω	
Forward Transconductance – Übertragungssteilheit $V_{DS} \geq 10 V_{DS(on)}, I_D = 200 mA$	g_{FS}	80 mS		
Input Capacitance – Eingangskapazität $V_{DS} = 25 V, f = 1 MHz$	C_{iss}		50 pF	
Output Capacitance – Ausgangskapazität $V_{DS} = 25 V, f = 1 MHz$	C_{oss}		25 pF	
Reverse Transfer Capacitance – Rückwirkungskapazität $V_{DS} = 25 V, f = 1 MHz$	C_{rss}		5 pF	
Turn-On Time – Einschaltzeit $V_{DD} = 30 V, R_L = 150 \Omega, I_D = 0.2 A, V_{GS} = 10 V, R_G = 25 \Omega$	t_{on}		20 ns	
Turn-Off Delay Time – Ausschaltverzögerung $V_{DD} = 30 V, R_L = 150 \Omega, I_D = 0.2 A, V_{GS} = 10 V, R_G = 25 \Omega$	t_{off}		20 ns	