

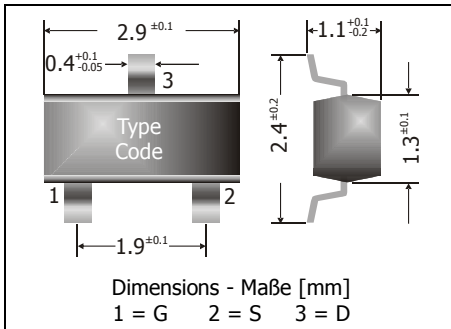
MMBT7002K

N

N-Channel Enhancement Mode FET with protected Gate
N-Kanal FET mit Gateschutzdiode – Anreicherungstyp

N

Version 2015-05-12



Power dissipation – Verlustleistung

350 mW

Plastic case
KunststoffgehäuseSOT-23
(TO-236)

Weight approx. – Gewicht ca.

0.01 g

Plastic material has UL classification 94V-0
Gehäusematerial UL94V-0 klassifiziertStandard packaging taped and reeled
Standard Lieferform getupet auf Rolle

Maximum ratings (T_A = 25°C)

Grenzwerte (T_A = 25°C)

		MMBT7002K	
Drain-Source-voltage – Drain-Source-Spannung		V _{DSS}	60 V
Gate-Source-voltage – Gate-Source-Spannung	dc ESD	V _{GSS} V _{GSS}	± 20 V ± 2 kV
Power dissipation – Verlustleistung		P _{tot}	350 mW
Drain current continuous – Drainstrom (dc)		I _D	115 mA
Drain current pulsed – Drainstrom gepulst	t _p < 10 μs	I _{DM}	800 mA
Operating Junction temperature – Sperrschichttemperatur		T _j	150°C
Storage temperature – Lagerungstemperatur		T _s	-55...+150°C

Characteristics ($T_j = 25^\circ\text{C}$)Kennwerte ($T_j = 25^\circ\text{C}$)

		Min.	Typ.	Max.
Drain-Source breakdown voltage – Drain-Source-Durchbruchspannung $I_D = 10 \mu\text{A}$	BV_{DSS}	60 V		
Drain-Source leakage current – Drain-Source Leckstrom $V_{DS} = 60 \text{ V}$	G short I_{DSS}			1 μA
Gate-Source leakage current – Gate-Source Leckstrom $V_{GS} = 20 \text{ V}$	$\pm I_{GSS}$			10 μA
Gate-Threshold voltage – Gate-Source Schwellspannung $V_{GS} = V_{DS}, I_D = 250 \mu\text{A}$	$V_{GS(th)}$	1 V		2.5 V
Drain-Source on-state resistance – Drain-Source Einschaltwiderstand				
$V_{GS} = 10 \text{ V}, I_D = 500 \text{ mA}$ $V_{GS} = 4.5 \text{ V}, I_D = 200 \text{ mA}$	$R_{DS(on)}$ $R_{DS(on)}$			3 Ω 4 Ω
Forward Transconductance – Übertragungssteilheit $V_{DS} \geq 10 V_{DS(on)}, I_D = 200 \text{ mA}$	g_{FS}	80 mS		
Input Capacitance – Eingangskapazität $V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{iss}		50 pF	
Output Capacitance – Ausgangskapazität $V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{oss}		25 pF	
Reverse Transfer Capacitance – Rückwirkungskapazität $V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{rss}		5 pF	
Turn-On Time – Einschaltzeit $V_{DD} = 30 \text{ V}, R_L = 150 \Omega, I_D = 0.2 \text{ A}, V_{GS} = 10 \text{ V}, R_G = 25 \Omega$	t_{on}		20 ns	
Turn-Off Delay Time – Ausschaltverzögerung $V_{DD} = 30 \text{ V}, R_L = 150 \Omega, I_D = 0.2 \text{ A}, V_{GS} = 10 \text{ V}, R_G = 25 \Omega$	t_{off}		20 ns	
Marking Stempelung		MMBT7002K = K72		