

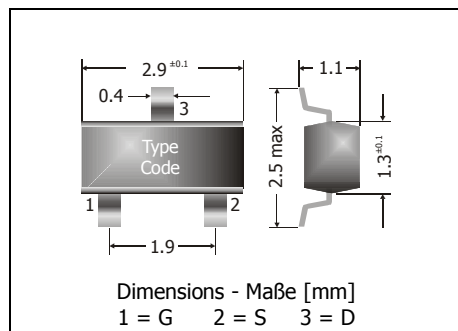
MMBT7002K

N

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

N

Version 2011-02-01



Power dissipation – Verlustleistung

350 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)

			MMBT7002K
Drain-Source-voltage – Drain-Source-Spannung	V _{DSS}		60 V
Gate-Source-voltage – Gate-Source-Spannung	dc	V _{GSS}	± 20 V
	ESD	V _{GSS}	± 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°C)
Kennwerte (T_j = 25°C)

		Min.	Typ.	Max.
Drain-Source breakdown voltage – Drain-Source-Durchbruchspannung I _D = 10 µA	BV _{DSS}	60 V		
Drain-Source leakage current – Drain-Source Leckstrom V _{DS} = 60 V	G short I _{DSS}		1 µA	
Gate-Source leakage current – Gate-Source Leckstrom V _{GS} = 20 V	±I _{GSS}		10 µA	
Gate-Threshold voltage – Gate-Source Schwellspannung V _{GS} = V _{DS} , I _D = 250 µA	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 V _{GS} = 4.5 V, I _D = 200 mA	R _{DS(on)} R _{DS(on)}			3 Ω 4 Ω
Forward Transconductance – Übertragungssteilheit V _{DS} ≥ 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 Ω, I _D = 0.2 A, V _{GS} = 10 V, R _G = 25 Ω	t _{on}		20 ns	
Turn-Off Delay Time – Ausschaltverzögerung V _{DD} = 30 V, R _L = 150 Ω, I _D = 0.2 A, V _{GS} = 10 V, R _G = 25 Ω	t _{off}		20 ns	