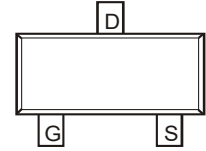
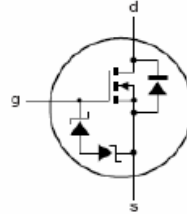
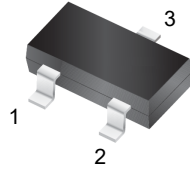


N-Channel MOSFET in SOT-23

Features

- High density cell design for Low RDS (on)
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected up to 2KV



Mechanical Data

- **Case:** SOT-23 (plastic package).
Lead free; RoHS compliant
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals

Applications

- Load/Power Switching
- Interfacing Switching
- DC-DC Converters
- Power management functions
- Analog Switch

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source voltage	60	V
V _{GS}	Gate-Source voltage Drain	20	V
I _D	Current	340	mA
P _D	Power Dissipation	0.35	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C
R _{θJA}	Thermal Resistance from Junction to Ambient	357	°C /W

Electrical Characteristics

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

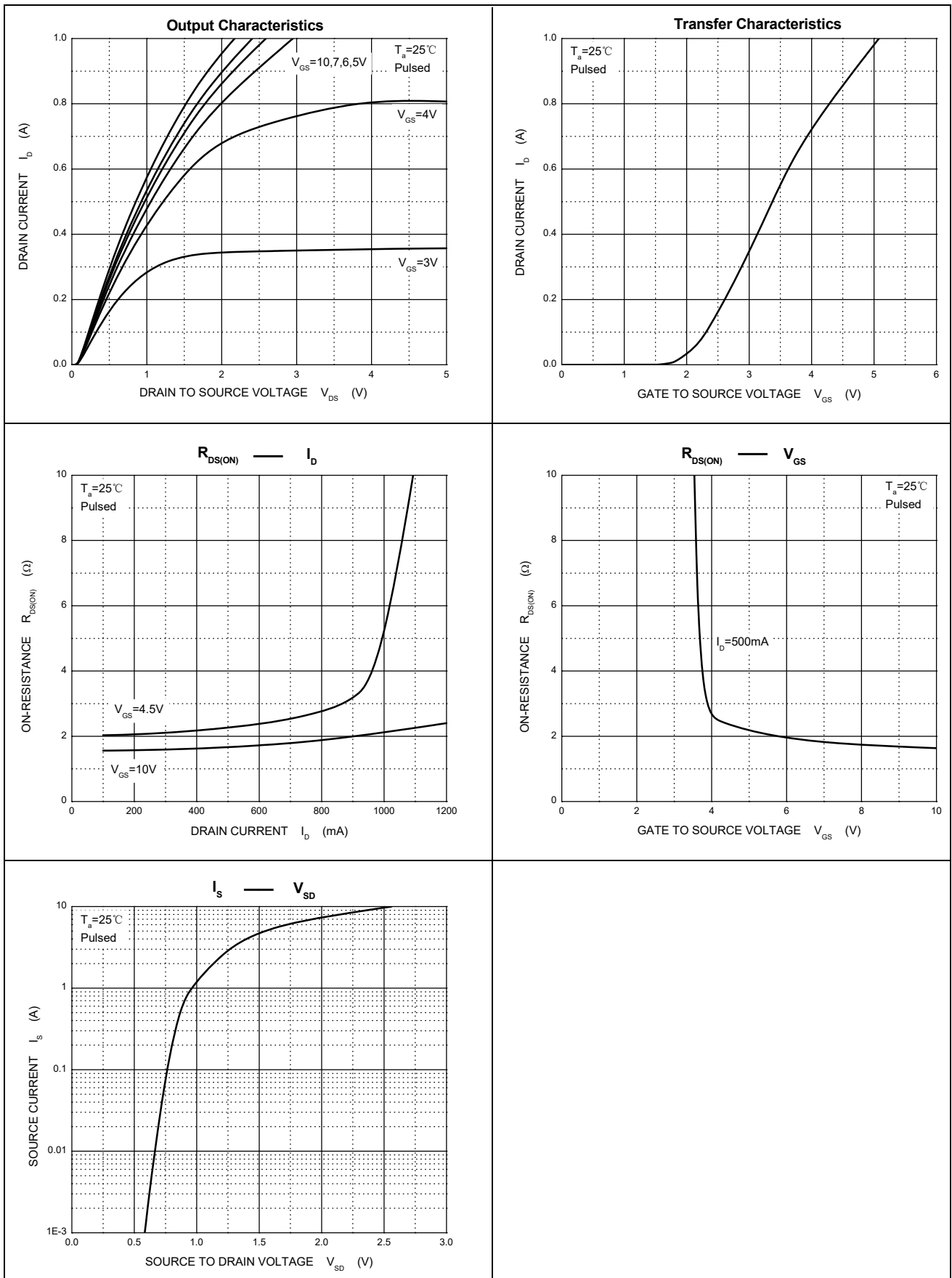
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static Characteristics						
Drain-Source Breakdown Voltage	V_{DS}	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Gate Threshold Voltage*	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 1mA$	1		2.5	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48V, V_{GS} = 0V$			1	μA
Gate –Source leakage current	I_{GSS1}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 10	μA
	I_{GSS2}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 200	nA
	I_{GSS3}	$V_{GS} = \pm 5V, V_{DS} = 0V$			± 100	nA
Drain-Source On-Resistance*	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 200mA$			5.3	Ω
		$V_{GS} = 10V, I_D = 500mA$			5	Ω
Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = 300mA$			1.5	V
Recovered charge	Q_r	$V_{GS} = 0V, I_S = 300mA, V_R = 25V, di_s/dt = -100A/\mu S$		30		nC
Dynamic Characteristics**						
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$			40	pF
Output Capacitance	C_{oss}				30	pF
Reverse Transfer Capacitance	C_{rss}				10	pF
Switching Characteristics**						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 10V, V_{DD} = 50V, R_G = 50\Omega, R_{GS} = 50\Omega, R_L = 250\Omega$			10	ns
Turn-Off Delay Time	$t_{d(off)}$				15	ns
Reverse recovery Time	t_{rr}	$V_{GS} = 0V, I_S = 300mA, V_R = 25V, di_s/dt = -100A/\mu S$		30		ns
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BV_{GSO}	$I_{GS} = \pm 1mA$ (Open Drain)	± 21.5		± 30	V

Notes :

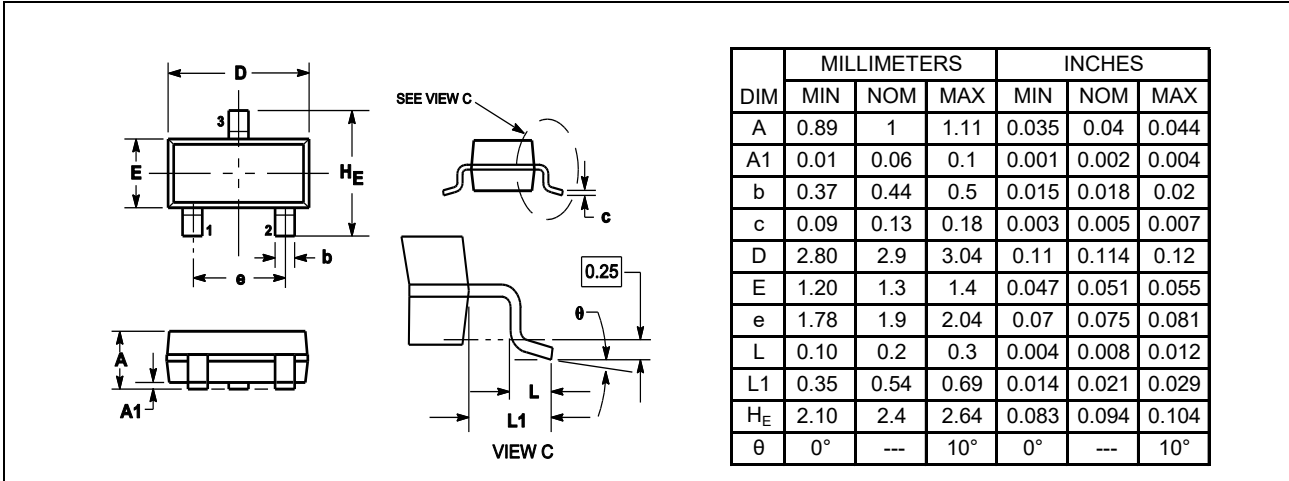
*Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

**These parameters have no way to verify.

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)



Package Dimensions



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
RDT2N7002K	SOT-23	Tape and reel	3000pcs / reel	EIA STD RS-481

Revision history

Date	Revision	Changes
28-May-2020	1.0	Initial release

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