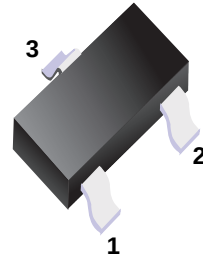


■ Features

- Very fast switching
- ESD protected up to 2 KV

**■ Simplified outline(SOT-523)****■ Absolute Maximum Ratings $T_a = 25^{\circ}\text{C}$**

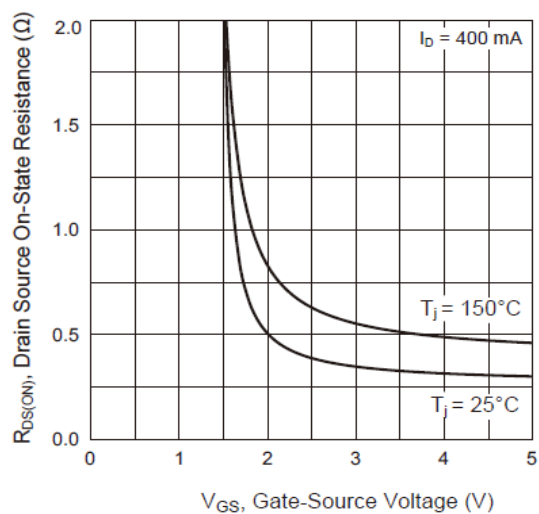
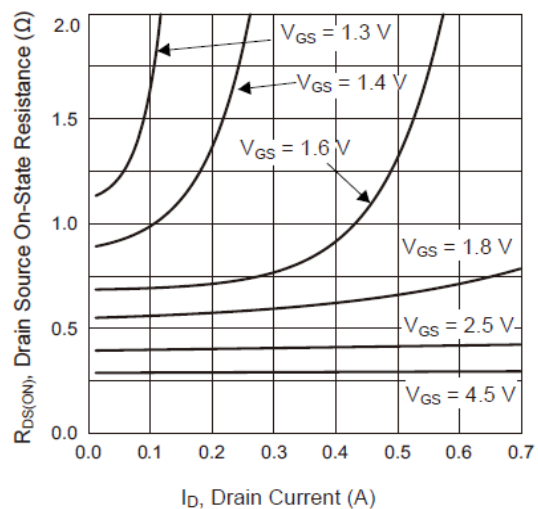
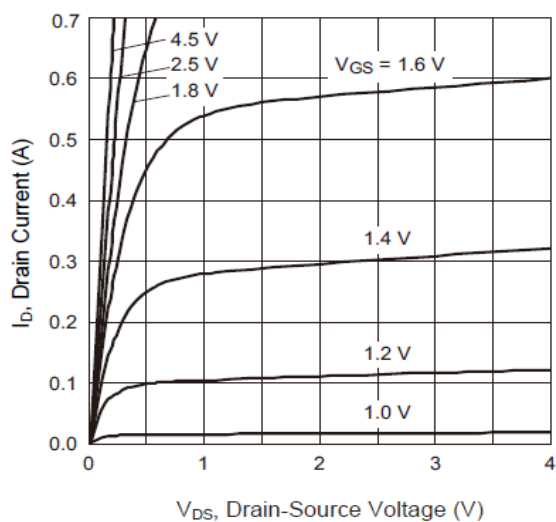
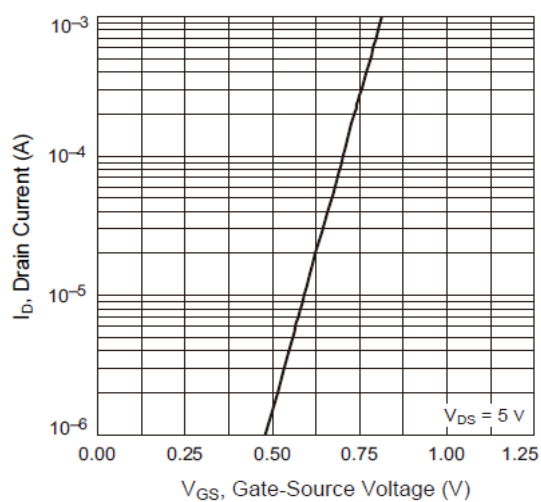
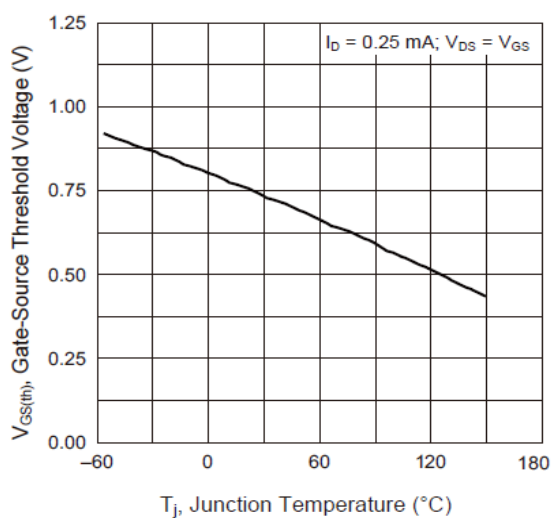
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 8	V
Drain Current at $V_{GS} = 4.5\text{ V}$	I_D	$700^{1)}$ $440^{1)}$	mA
Peak Drain Current, Pulsed ($t_p \leq 10\text{ }\mu\text{s}$)	I_{DM}	2.8	A
Power Dissipation	P_D	$300^{1)}$	mW
Maximum Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	$510^{2)}$	$^{\circ}\text{C/W}$
Junction Temperature Rang	T_j	- 55 to + 150	$^{\circ}\text{C}$
Storage Temperature Rang	T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

¹⁾ Device mounted on an FR-4 (PCB), single-sided copper, tin-plated, mounting pad for drain 1 cm^2 .

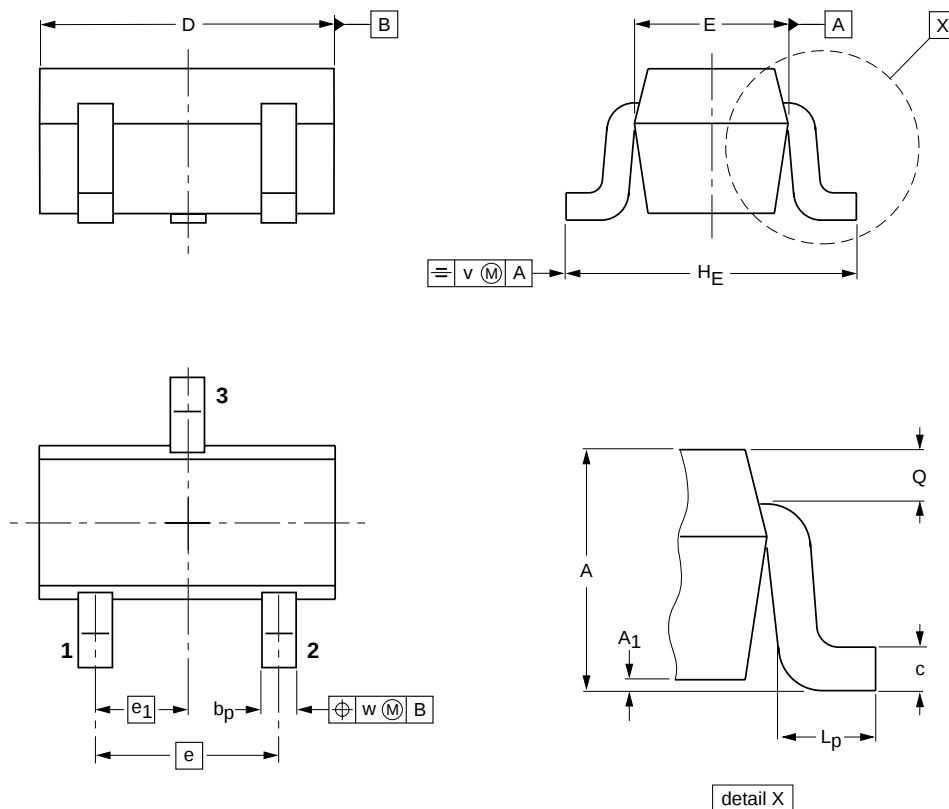
²⁾ Device mounted on an FR-4 (PCB), single-sided copper, tin-plated and standard footprint.

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $I_D = 250 \mu A$	BV_{DSS}	20	-	-	V
Gate-Source Threshold Voltage at $V_{DS} = V_{GS}$, $I_D = 250 \mu A$	V_{GSth}	0.5	-	0.95	V
Drain-Source Leakage Current at $V_{DS} = 20 V$	I_{DSS}	-	-	1	μA
Gate Leakage Current at $V_{GS} = \pm 8 V$ at $V_{GS} = \pm 4.5 V$	I_{GSS}	- -	- -	± 2 ± 0.5	μA
Drain-Source On-State Resistance at $V_{GS} = 4.5 V$, $I_D = 0.5 A$ at $V_{GS} = 2.5 V$, $I_D = 0.4 A$ at $V_{GS} = 1.8 V$, $I_D = 0.1 A$	$R_{DS(on)}$	- - -	- - -	380 620 1100	m Ω
Forward Transconductance at $V_{DS} = 10 V$, $I_D = 0.2 A$	$ g_{FS} $	-	1.6	-	S
Input Capacitance at $V_{GS} = 0 V$, $V_{DS} = 10 V$, $f = 1 MHz$	C_{iss}	-	-	83	pF
Output Capacitance at $V_{GS} = 0 V$, $V_{DS} = 10 V$, $f = 1 MHz$	C_{oss}	-	15	-	pF
Reverse Transfer Capacitance at $V_{GS} = 0 V$, $V_{DS} = 10 V$, $f = 1 MHz$	C_{rss}	-	7	-	pF
Turn-On Delay Time at $V_{GS} = 4.5 V$, $V_{DS} = 10 V$, $R_L = 250 \Omega$, $R_G = 6 \Omega$	t_{on}	-	-	12	ns
Turn-On Rise Time at $V_{GS} = 4.5 V$, $V_{DS} = 10 V$, $R_L = 250 \Omega$, $R_G = 6 \Omega$	t_r	-	4	-	ns
Turn-Off Delay Time at $V_{GS} = 4.5 V$, $V_{DS} = 10 V$, $R_L = 250 \Omega$, $R_G = 6 \Omega$	t_{off}	-	-	172	ns
Turn-Off Fall Time at $V_{GS} = 4.5 V$, $V_{DS} = 10 V$, $R_L = 250 \Omega$, $R_G = 6 \Omega$	t_{off}	-	31	-	ns
Diode Forward Voltage at $I_S = 0.3 A$, $V_{GS} = 0 V$	V_{SD}	0.48	-	1.2	V



■ SOT-523



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	0.95 0.60	0.1	0.30 0.15	0.25 0.10	1.8 1.4	0.9 0.7	1	0.5	1.75 1.45	0.45 0.15	0.23 0.13	0.2	0.2