

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Low on-resistance
- Fast switching speed
- Drive circuits can be simple
- Parallel use is easy
- Low voltage drive makes this device ideal for portable equipment

APPLICATION

- Interfacing
- Switching

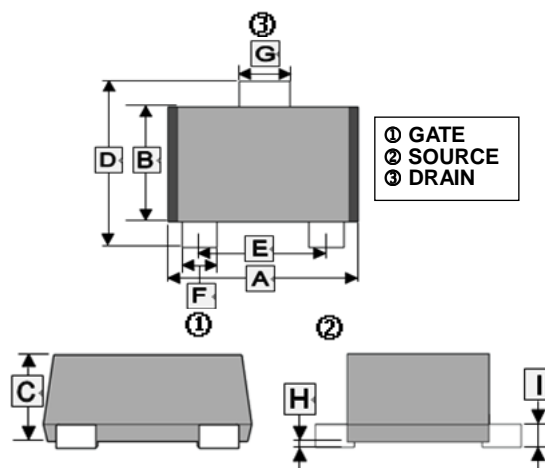
MARKING

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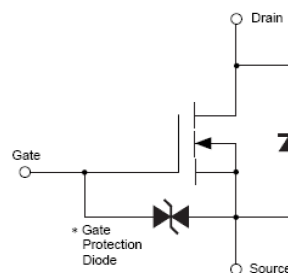
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-723	8K	7 inch

SOT-723



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.150	1.250	F	0.170	0.270
B	0.750	0.850	G	0.270	0.370
C	-	0.500	H	0	0.050
D	1.150	1.250	I	-	0.150
E	0.800TYP.				



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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	100	mA
Total Power Dissipation	P_D	0.15	W
Thermal Resistance Junction-ambient	$R_{\theta JA}$	833	$^\circ\text{C} / \text{W}$
Operating Junction & Storage Temperature Range	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

Notes:

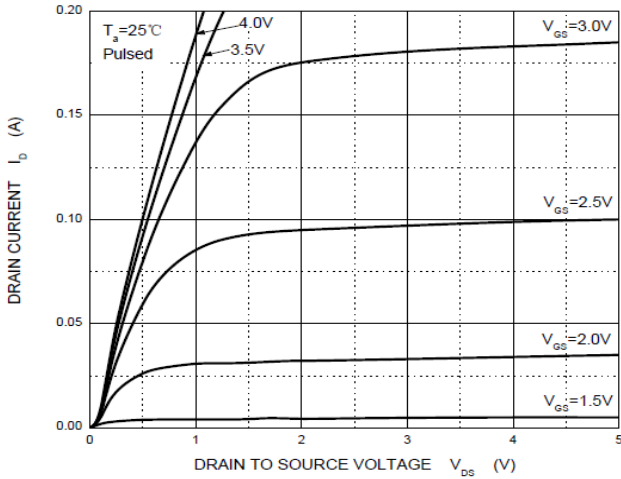
1. $P_w \leq 10 \mu\text{s}$, Duty cycle $\leq 1\%$

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

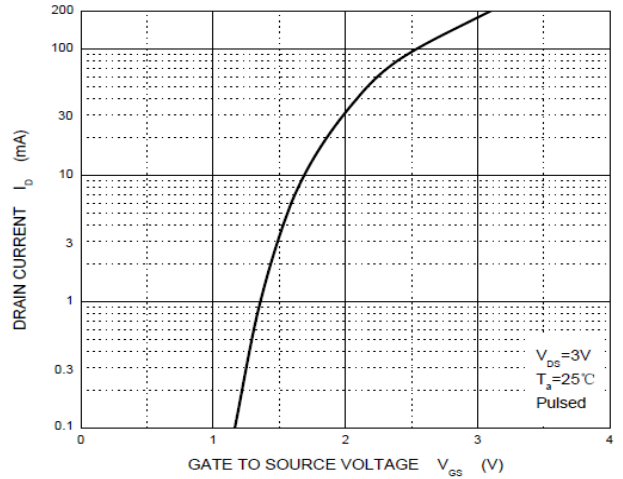
Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	30	-	-	V	$V_{GS}=0, I_D=10\mu\text{A}$
Gate Threshold Voltage	$V_{GS(th)}$	0.8	-	1.5	V	$V_{DS}=3\text{V}, I_D=100\mu\text{A}$
Gate-Body Leakage Current	I_{GSS}	-	-	± 1	μA	$V_{DS}=0, V_{GS}=\pm 20\text{V}$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	$V_{DS}=30\text{V}, V_{GS}=0$
Drain-Source On-Resistance ¹	$R_{DS(ON)}$	-	5	8	Ω	$V_{GS}=4\text{V}, I_D=10\text{mA}$
		-	7	13		$V_{GS}=2.5\text{V}, I_D=1\text{mA}$
Forward Transconductance ¹	g_{fs}	20	-	-	mS	$V_{DS}=3\text{V}, I_D=10\text{mA}$
Input Capacitance	C_{iss}	-	13	-	pF	$V_{DS}=5\text{V},$ $V_{GS}=0,$ $f=1\text{MHz}$
Output Capacitance	C_{oss}	-	9	-		
Reverse Transfer Capacitance	C_{rss}	-	4	-		
Turn-On Delay Time	$T_{d(on)}$	-	15	-	nS	$V_{DD}=5\text{V}$ $I_D=10\text{mA}$ $V_{GS}=5\text{V}$ $R_L=500\Omega$ $R_G=10\Omega$
Rise Time	T_r	-	35	-		
Turn-Off Delay Time	$T_{d(off)}$	-	80	-		
Fall Time	T_f	-	80	-		

CHARACTERISTIC CURVES

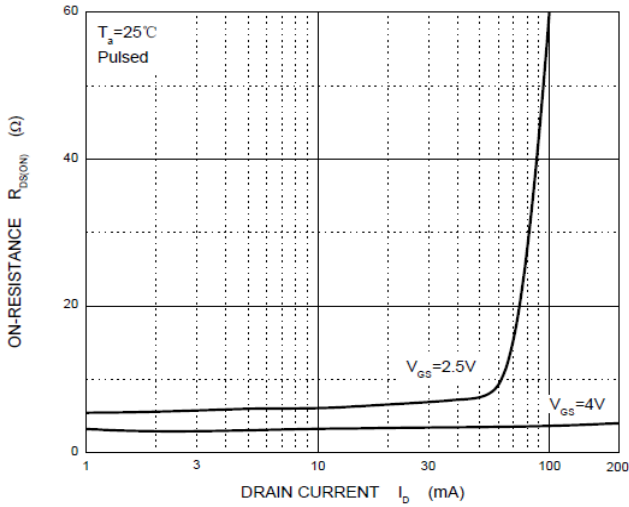
Output Characteristics



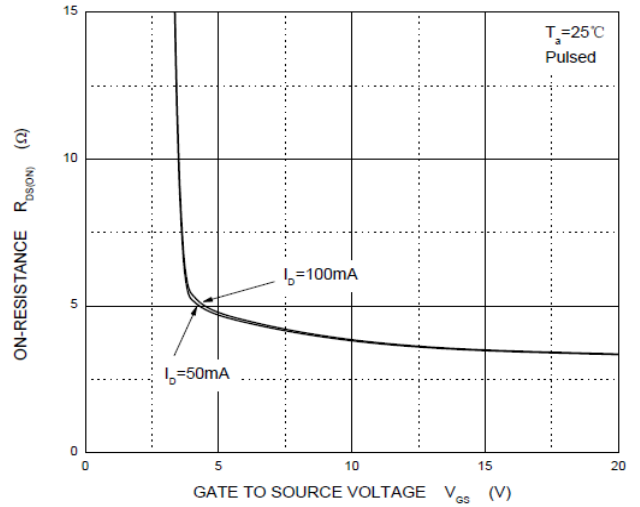
Transfer Characteristics



$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

