QC3134KT

N-Channel MOSFET

■ Features

- V_{DS} 20V
- I_D 0.75A
- $R_{DS(ON)}$(at V_{GS}=4.5V) ＜350 mohm
- $R_{DS(ON)}$(at V_{GS}=2.5V) ＜500 mohm
- ESD Protected Up to 3.0KV (HBM)

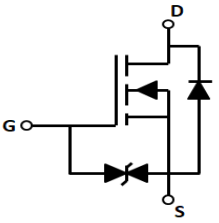
■ Application

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift



1. Gate
2. Source
3. Drain

■ Simplified outline(SOT-523)



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	20	V
Gate-source Voltage		V_{GS}	±10	V
Drain Current	T_A=25℃ @ Steady State	I_D	0.75	A
	T_A=70℃ @ Steady State		0.6	
Pulsed Drain Current [A]		I_{DM}	3.0	A
Total Power Dissipation @ T_A=25℃		P_D	0.15	W
Thermal Resistance Junction-to-Ambient @ Steady State		$R_{\theta JA}$	833	℃/ W
Junction and Storage Temperature Range		T_J ,T_{STG}	-55～+150	℃

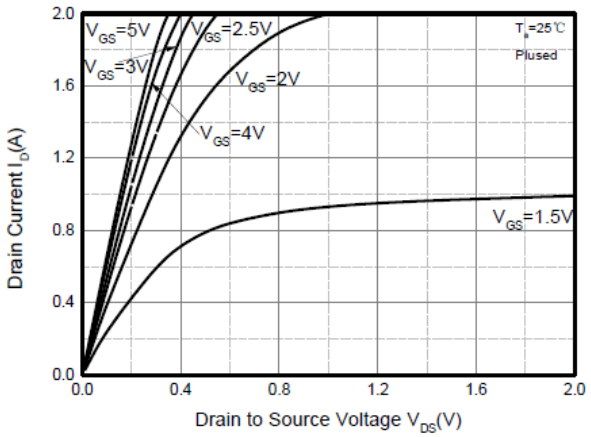
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=250μA	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V,V_{GS}=0V			1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±10V, V_{DS}=0V			±20	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250μA	0.35	0.75	1.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}= 4.5V, I_D=0.65A		135	350	mΩ
		V_{GS}= 2.5V, I_D=0.3A		190	500	
Diode Forward Voltage [C]	V_{SD}	I_S=0.5A,V_{GS}=0V			1.2	V
Maximum Body-Diode Continuous Current	I_S				0.75	A
Dynamic Parameters [B]						
Input Capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0V,f=1MHZ			110	pF
Output Capacitance	C_{oss}				18	
Reverse Transfer Capacitance	C_{rss}				15	
Switching Parameters [B]						
Total Gate Charge	Q_g	V_{GS}=4.5V,V_{DS}=10V,I_D=0.5A		1.1		nC
Gate Source Charge	Q_{gs}			0.19		
Gate Drain Charge	Q_{gd}			0.27		
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=4.5V,V_{DD}=10V,R_G=10Ω,I_D=0.5A		6.7		ns
Turn-on Rise Time	t_r			4.8		
Turn-off Delay Time	$t_{D(off)}$			17.3		
Turn-off Fall Time	t_f			7.4		

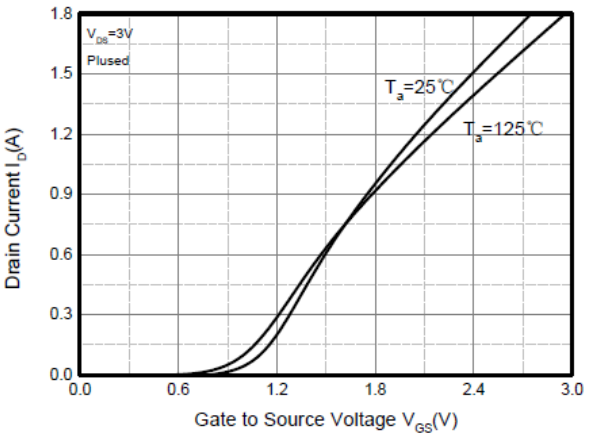
A. Repetitive Rating: Pulse width limited by maximum junction temperature.
B. These parameters have no way to verify.
C. Pulse Test: Pulse Width≤300us, Duty Cycle≤0.5%.

■ Typical Performance Characteristics

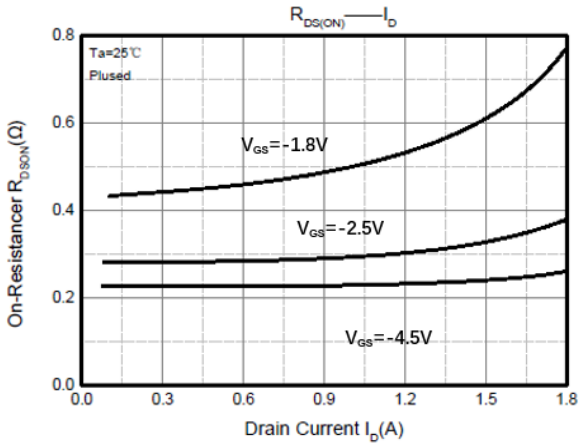
Output Characteristics



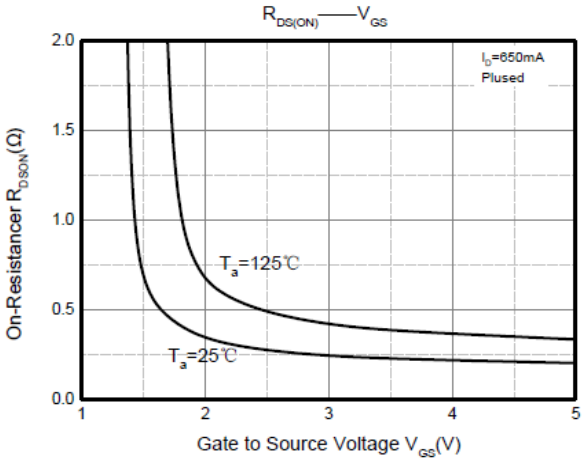
Transfer Characteristics



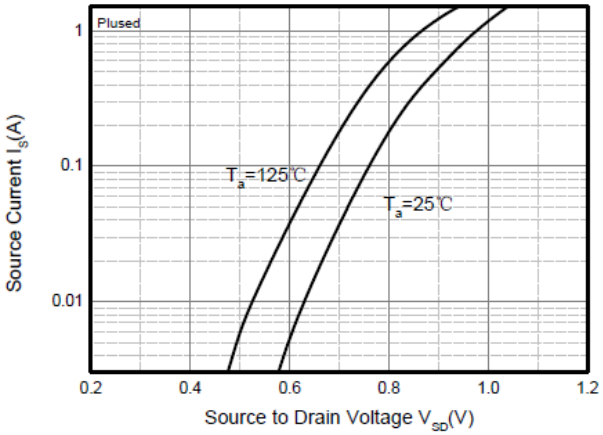
$R_{DS(ON)}$——I_D



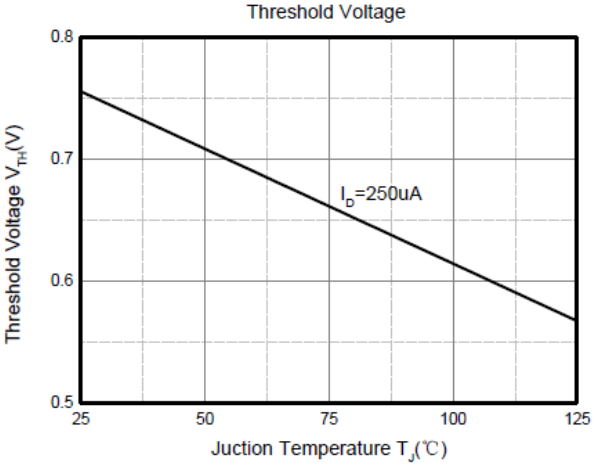
$R_{DS(ON)}$——V_{GS}



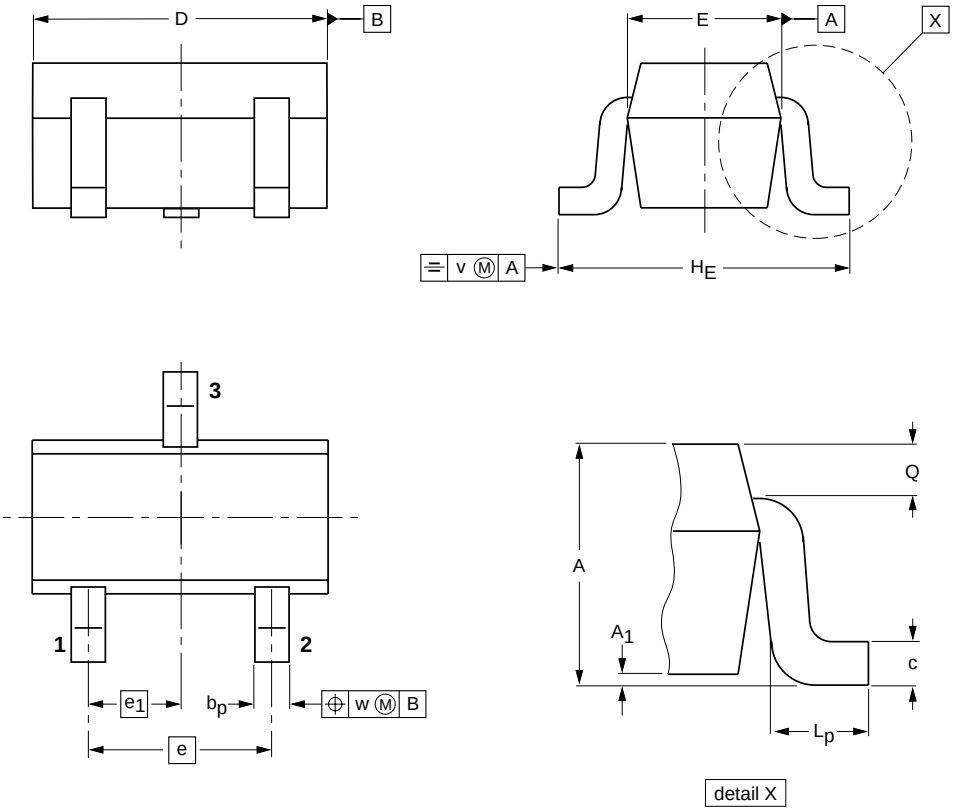
I_S——V_{SD}



Threshold Voltage



■ 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