Micro Commercial Components

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MC7252KDW

N-Channel
P-Channel
Power MOSFET

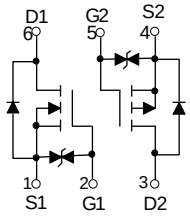
Features

- Halogen free available upon request by adding suffix "-HF"
- High-Side Switching
- Low Threshold
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

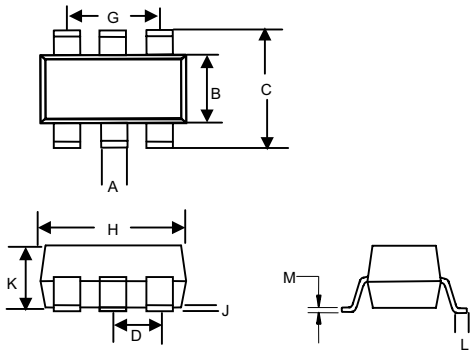
Symbol	Parameter	Value	Unit
N-Channel MOSFET			
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Drain Current -Continuous	0.34	A
I_{DM}	Drain Current - Pulsed(Note1)	1.36	A
P- Channel MOSFET			
V_{DS}	Drain-Source Voltage	-50	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Drain Current -Continuous	-0.18	A
I_{DM}	Drain Current – Pulsed (Note1)	-0.7	A
Power Dissipation, Temperature and Thermal Resistance			
P_D	Power Dissipation	0.15	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient (Note2)	833	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃
T_L	Lead Temperature	260	℃

Equivalent circuit



Marking :75

SOT-363



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.006	.014	0.15	0.35	
B	.045	.053	1.15	1.35	
C	.085	.096	2.15	2.45	
D	.026		0.65Nominal		
G	.047	.055	1.20	1.40	
H	.071	.087	1.80	2.20	
J	---	.004	---	0.10	
K	.031	.043	0.80	1.10	
L	.010	.018	0.26	0.46	
M	.003	.006	0.08	0.15	

Electrical characteristics (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
N- Channel MOSFET						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} =0V, I_D=250μA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =48V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±10	μA
		V_{GS} =±10V, V_{DS} = 0V			±200	nA
		V_{GS} =±5V, V_{DS} = 0V			±100	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =1mA	1	1.3	2.5	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} =4.5V, I_D =0.2A		1.1	5.3	Ω
		V_{GS} =10V, I_D =0.5A		0.9	5	Ω
Diode forward voltage	V_{SD}	I_S=0.3A, V_{GS} = 0V			1.5	V
DYNAMIC PARAMETERS (note 4)						
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 PARAMETERS (note 4)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DD}=50V, R_L=250Ω,R_{GEN}=50Ω,			10	ns
Turn-off delay time	$t_{d(off)}$				15	ns
Reverse recovery time	t_{rr}	I_S=300mA; d_{IS}/d_t=-100A/s;V_{GS}=0V; V_R=25V		30		ns
Recovered charge	Q_r			30		nC
P- Channel MOSFET						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-50			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-50V,V_{GS} = 0V			-15	μA
		V_{DS} =-25V,V_{GS} = 0V			-0.1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±10	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.9	-1.62	-2	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} =-5V, I_D =-0.1A		5.5	10	Ω
		V_{GS} =-10V, I_D =-0.1A		4.1	8	Ω
Forward transconductance (note 3)	g_{FS}	V_{DS} =-25V, I_D =-0.1A	0.05			S
DYNAMIC CHARACTERISTICS (note 4)						
Input capacitance	C_{iss}	V_{DS} =-5V,V_{GS} =0V,f =1MHz		30		pF
Output capacitance	C_{oss}			10		pF
Reverse transfer capacitance	C_{rss}			5		pF
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=-15V, R_L=50Ω, I_D =-2.5A		2.5		ns
Turn-on rise time	t_r			1		ns
Turn-off delay time	$t_{d(off)}$			16		ns
Turn-off fall time	t_f			8		ns
SOURCE–DRAIN DIODE CHARACTERISTICS(note 4)						
Continuous Current	I_S				-0.18	A
Pulsed Current	I_{SM}				-0.7	A
Diode forward voltage (note 3)	V_{DS}	I_S=-0.13A, V_{GS} = 0V			-2.2	V

Note: 1、 Surface mounted on FR-4 board using minimum pad size, 1oz copper

2、 Repetitive Rating: Pulse width limited by maximum junction temperature.

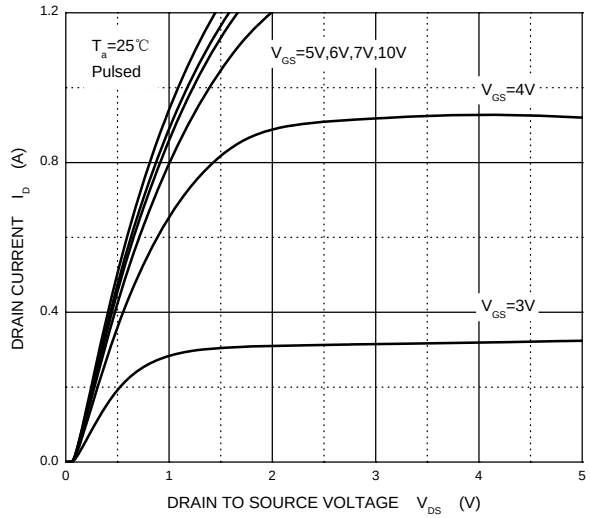
3、 Pulse test: pulse width ≤ 300μ s, duty cycle ≤2%

4、 These parameters have no way to verify.

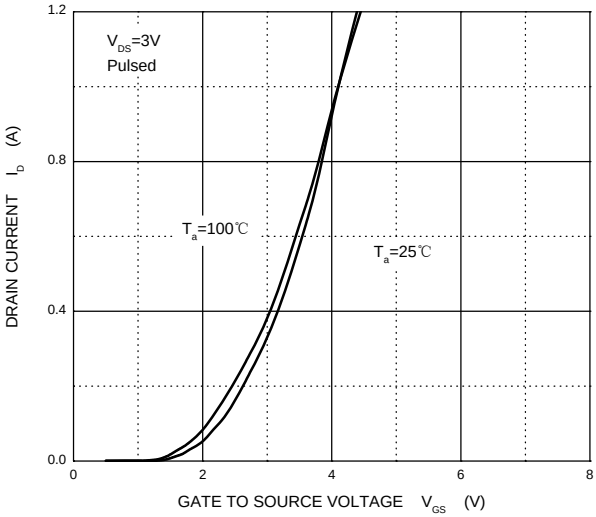
Typical Characteristics

N-Channel MOS

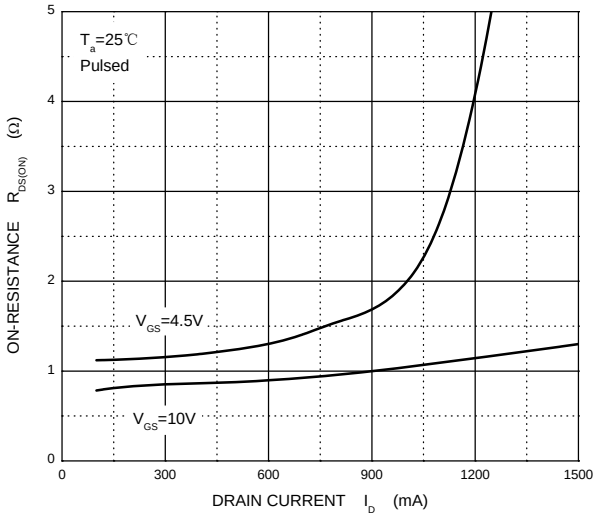
Output Characteristics



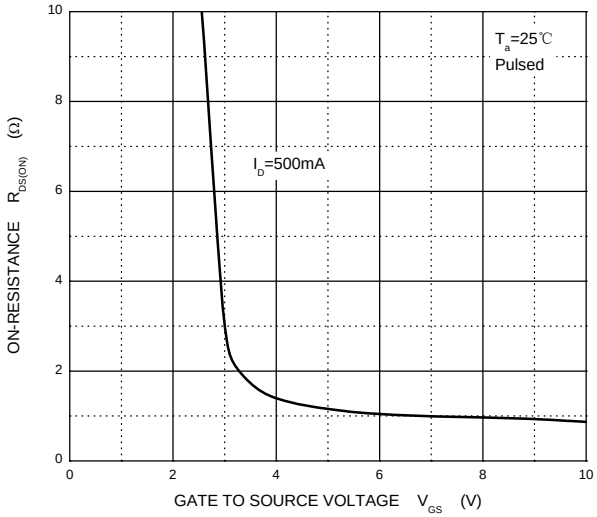
Transfer Characteristics



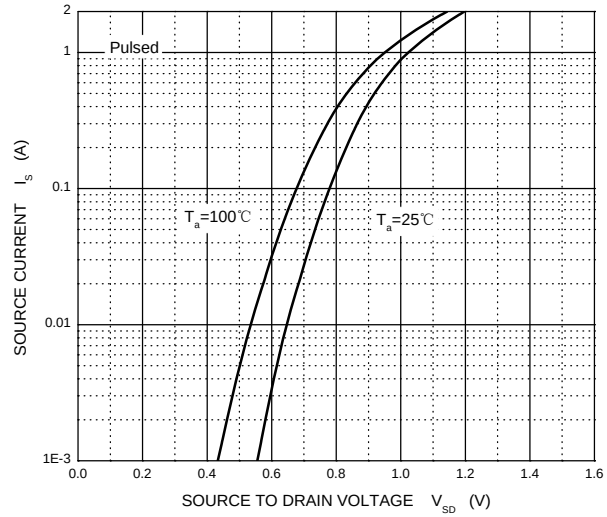
$R_{DS(ON)}$ —— I_D



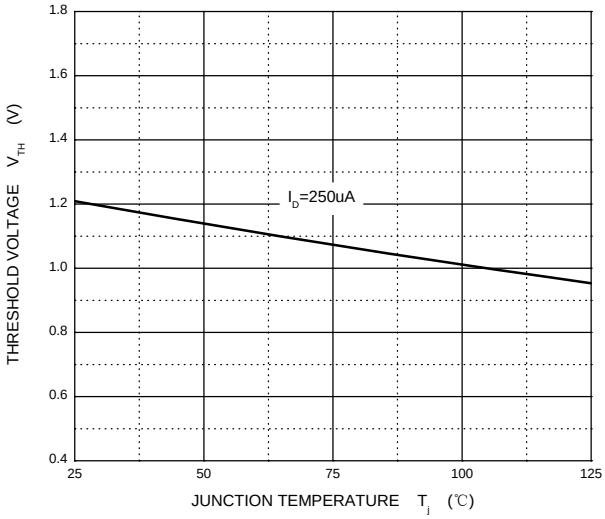
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



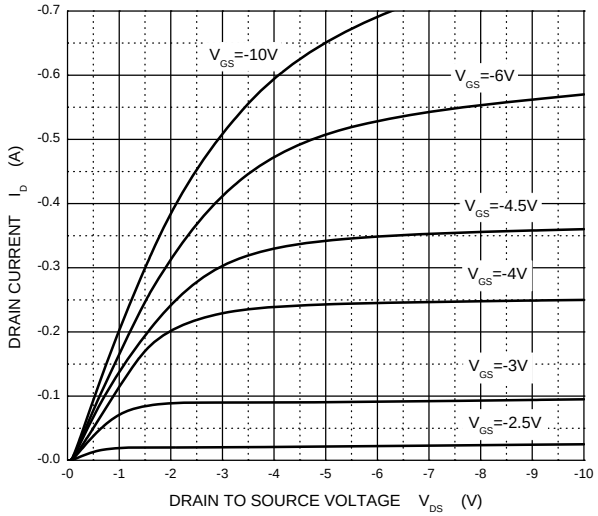
Threshold Voltage



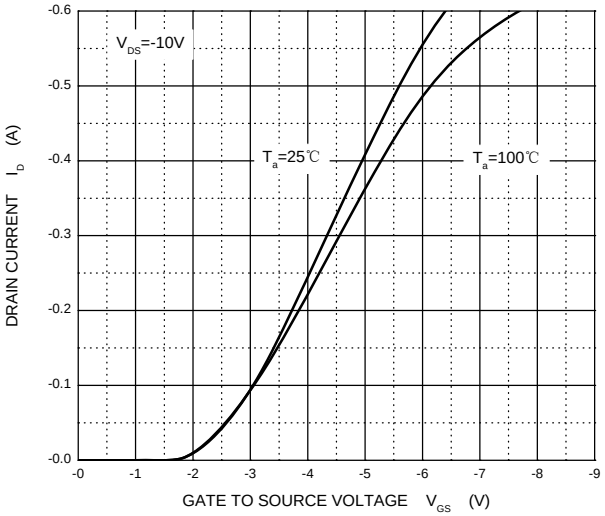
Typical Characteristics

P-Channel MOS

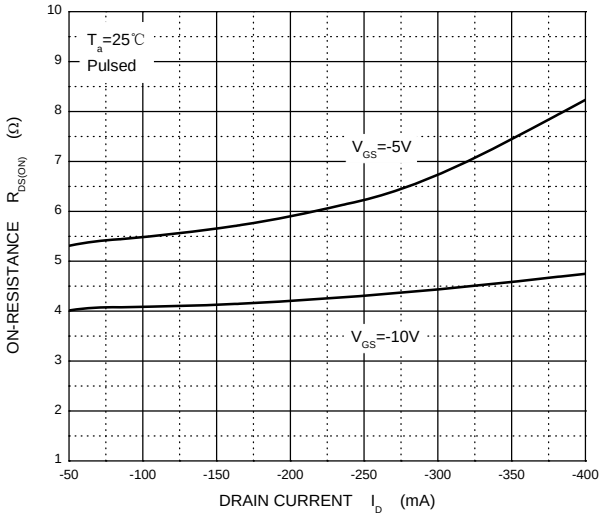
Output Characteristics



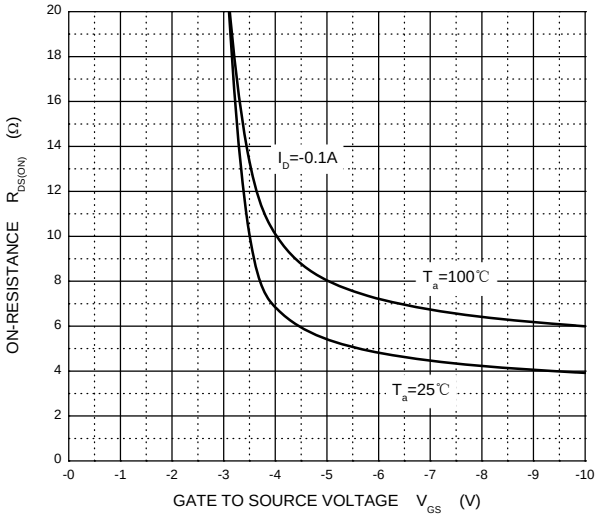
Transfer Characteristics



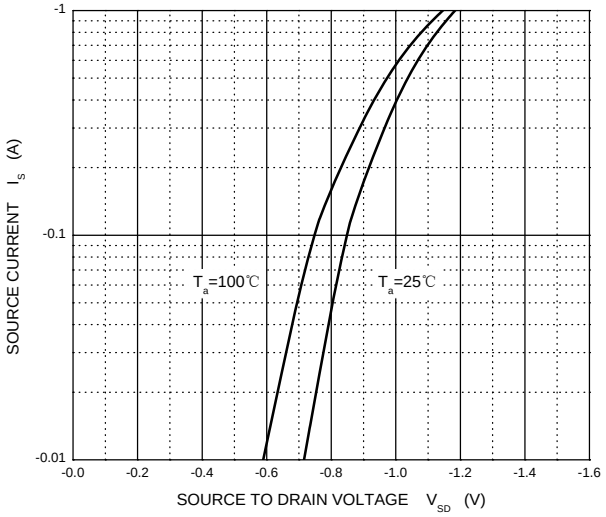
$R_{DS(ON)}$ —— I_D



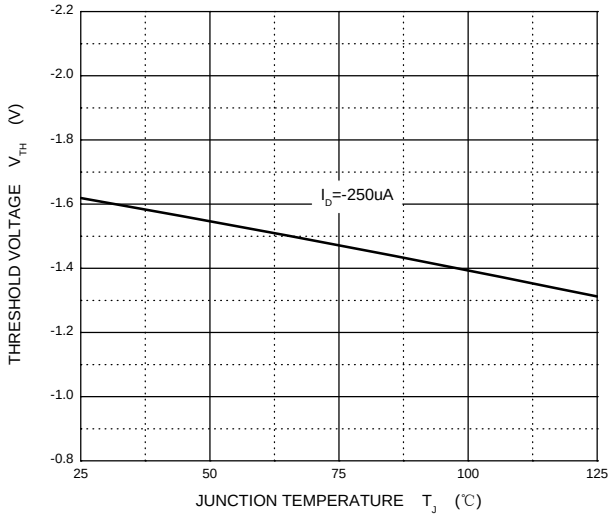
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage



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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel;3Kpcs/Reel

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