



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components



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# MCCD2007

## Features

- Advanced trench MOSFET process technology
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking:2007

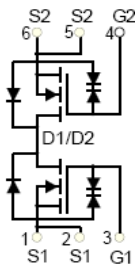
## Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Parameter	Rating	Unit
V <sub>DS</sub>	Drain-source Voltage	20	V
I <sub>D</sub>	Drain Current-Continuous	7	A
I <sub>DM</sub>	Pulsed Drain Current (note1)	30	A
V <sub>GS</sub>	Gate-source Voltage	± 12	V
R <sub>θJA</sub>	Thermal Resistance Junction to Ambient	125	°C/W
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

### Notes:

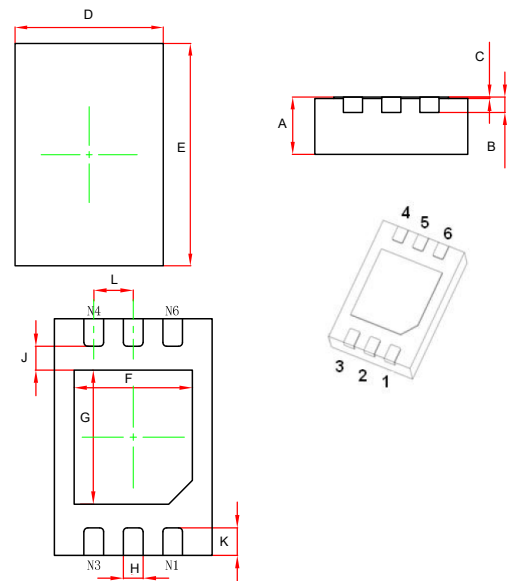
1. Repetitive Rating: Pulse width limited by junction temperature.

### Equivalent Circuit



## Dual N-Channel Power MOSFET

## DFN2030-6



DIM	Dimensions				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.028	.032	0.700	0.800	
B	0.008REF.		0.203REF.		
C	0.000	0.002	0.000	0.050	
D	0.077	0.081	1.950	2.050	
E	0.116	0.120	2.950	3.050	
F	0.055	0.063	1.400	1.600	
G	0.063	0.071	1.600	1.800	
H	0.008	0.012	0.200	0.300	
J	0.008	---	0.200	---	
K	0.018	0.026	0.300	0.400	
L	0.020TYP.		0.500TYP.		

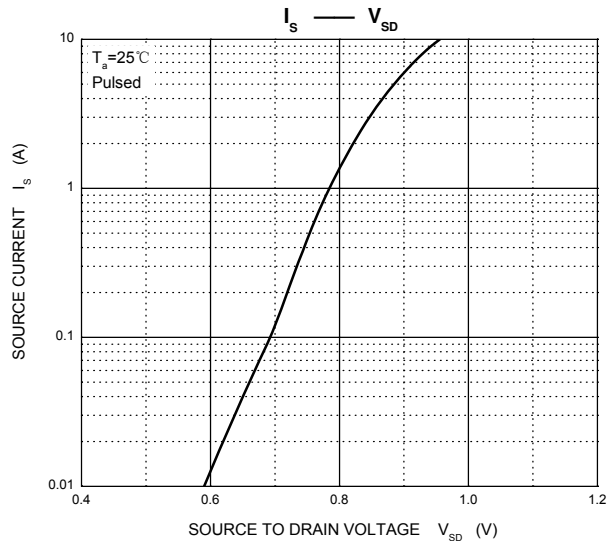
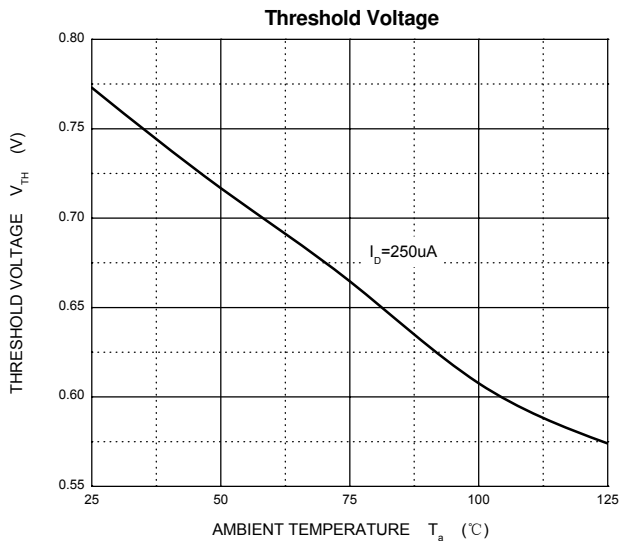
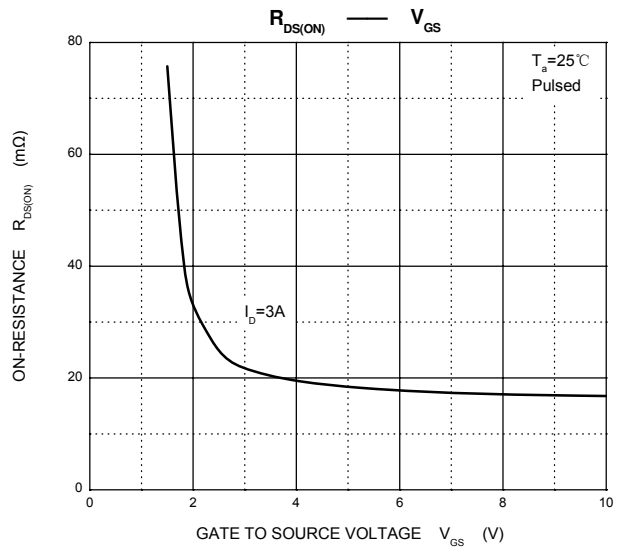
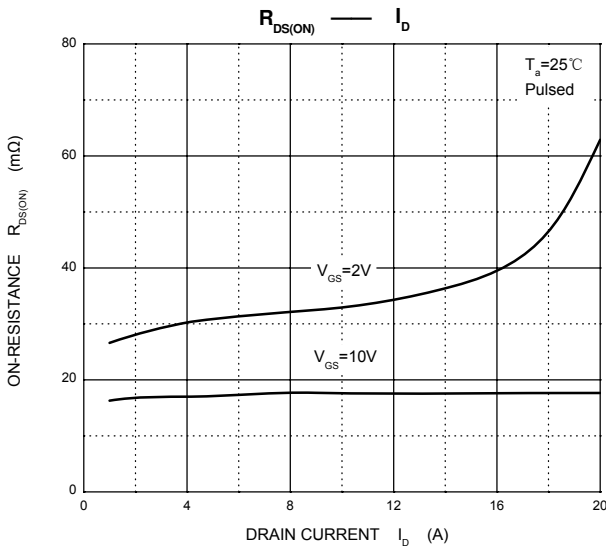
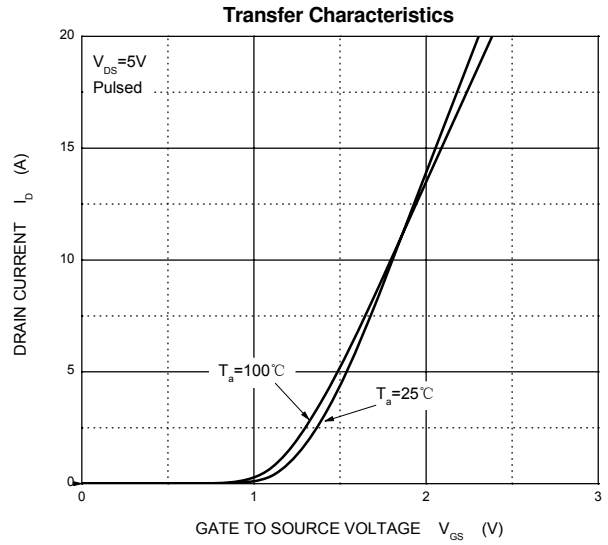
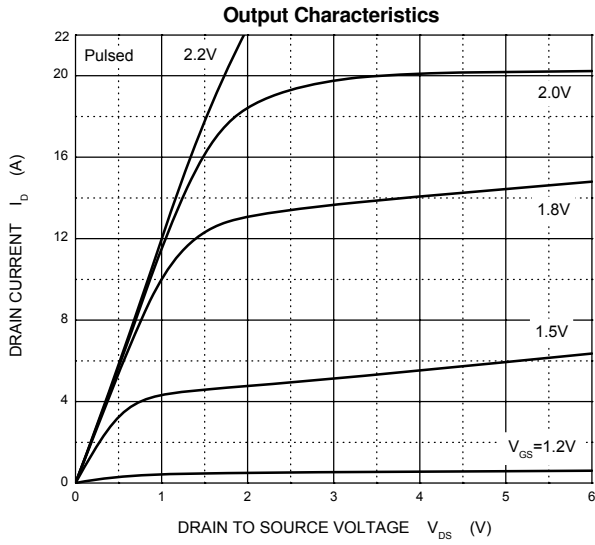
**ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> =250μA	20			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> =16V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±4.5V, V <sub>DS</sub> = 0V			±1	μA
		V <sub>GS</sub> =±8V, V <sub>DS</sub> = 0V			±10	μA
Gate threshold voltage (note 1)	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	0.4		1	V
Drain-source on-resistance (note 1)	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =7A			20	mΩ
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =6.6A			22	mΩ
		V <sub>GS</sub> =3.8V, I <sub>D</sub> =6A			24	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =5.5A			26	mΩ
		V <sub>GS</sub> =1.8V, I <sub>D</sub> =5A			35	mΩ
Forward tranconductance (note 1)	g <sub>FS</sub>	V <sub>DS</sub> =5V, I <sub>D</sub> =7A	9			S
Diode forward voltage(note 1)	V <sub>SD</sub>	I <sub>S</sub> =1A, V <sub>GS</sub> = 0V			1	V
<b>DYNAMIC PARAMETERS (note 2)</b>						
Input Capacitance	C <sub>iSS</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f =1MHz		1150		pF
Output Capacitance	C <sub>oSS</sub>			185		pF
Reverse Transfer Capacitance	C <sub>rSS</sub>			145		pF
Total gate charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4.5V, I <sub>D</sub> =7A		15		nC
Gate-source charge	Q <sub>gs</sub>			0.8		nC
Gate-drain charge	Q <sub>gd</sub>			3.2		nC
<b>SWITCHING PARAMETERS(note 2)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> =5V, V <sub>DD</sub> =10V, R <sub>L</sub> =1.35Ω, R <sub>GEN</sub> =3Ω		6		ns
Turn-on rise time	t <sub>r</sub>			13		ns
Turn-off delay time	t <sub>d(off)</sub>			52		ns
Turn-off fall time	t <sub>f</sub>			16		ns

**Notes :**

1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics





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## Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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