



Micro Commercial Components



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MCCD2005

Features

- Advanced trench MOSFET process technology
Ultra low on-resistance with low gate charge
Halogen free available upon request by adding suffix "-HF"
Epoxy meets UL 94 V-0 flammability rating
Moisture Sensitivity Level 1
Marking:2005

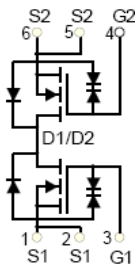
Maximum Ratings @ 25°C Unless Otherwise Specified

Table with 4 columns: Symbol, Parameter, Rating, Unit. Rows include V\_DS, I\_D, I\_DM, V\_GS, R\_thetaJA, T\_J, T\_STG.

Notes:

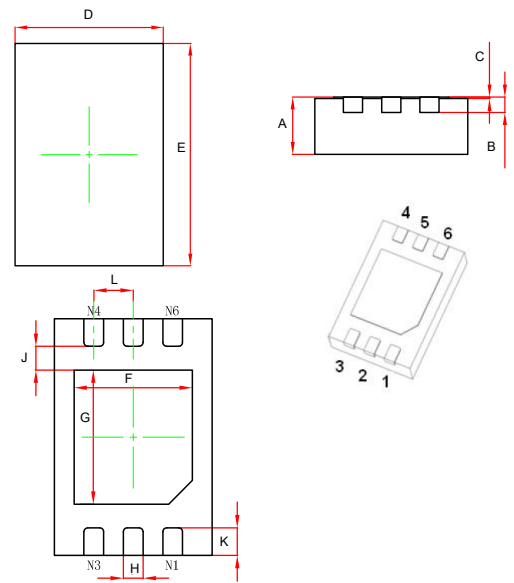
- 1. Repetitive Rating: Pulse width limited by junction temperature.

Equivalent Circuit



Dual N-Channel Power MOSFET

DFN2030-6



Dimensions table with columns: DIM, INCHES (MIN, MAX), MM (MIN, MAX), NOTE. Rows A through L.

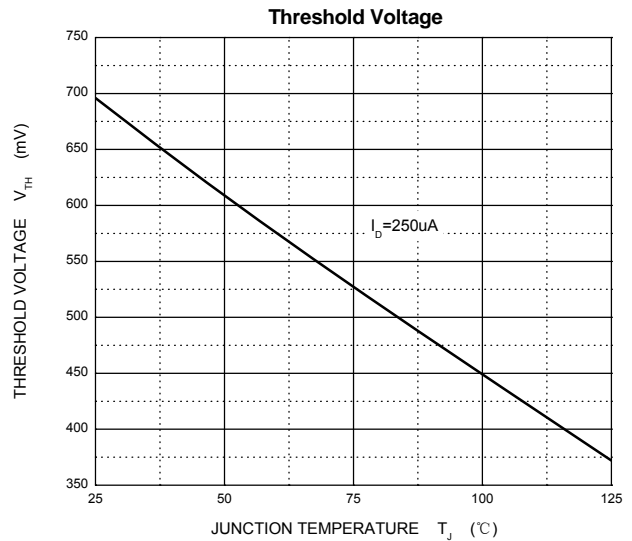
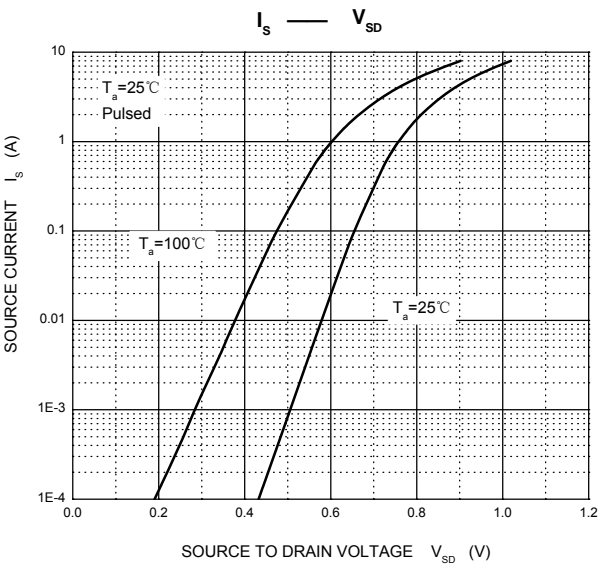
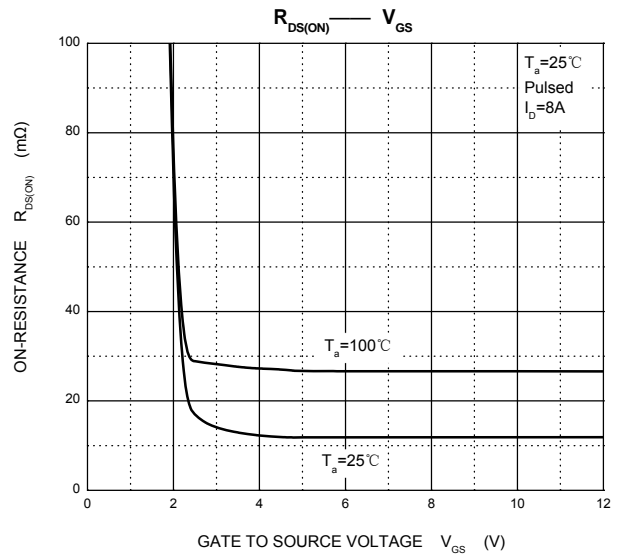
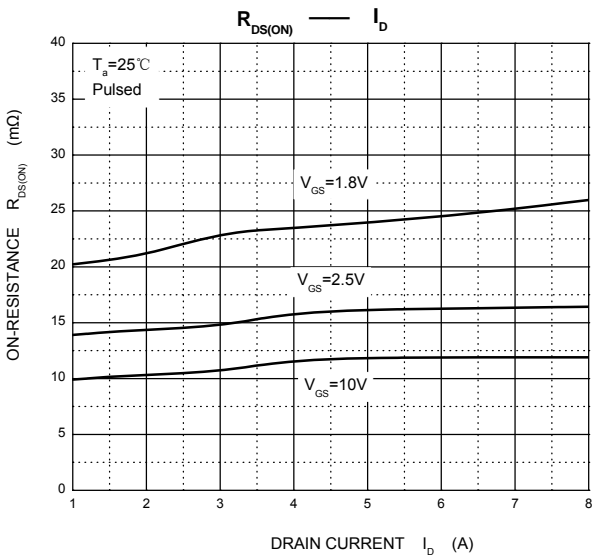
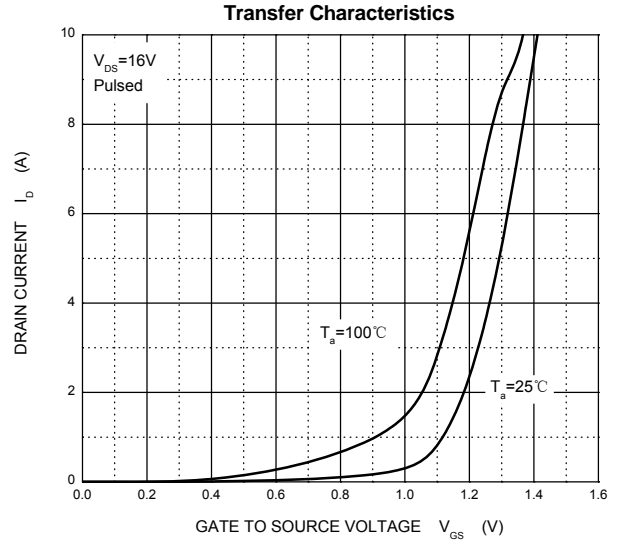
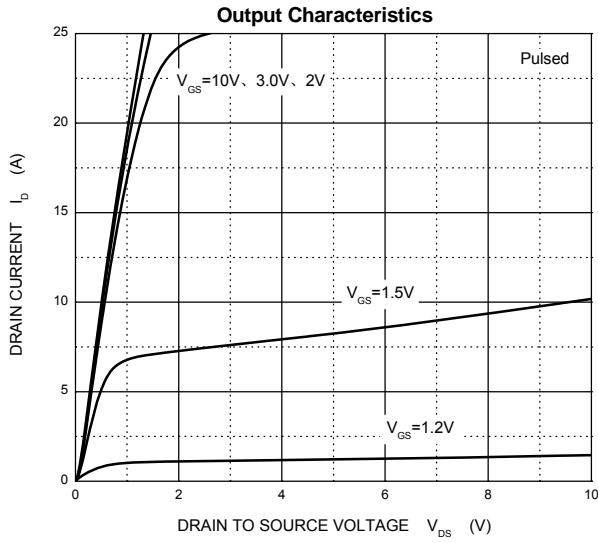
**ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise specified)**

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			10	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±10V, 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	0.5		1	V
Drain-source on-resistance (note 1)	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =8A			13	mΩ
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =5A			14	mΩ
		V <sub>GS</sub> =3.8V, I <sub>D</sub> =5A			15.5	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =4A			19	mΩ
		V <sub>GS</sub> =1.8V, I <sub>D</sub> =3A			27	mΩ
Forward tranconductance (note 1)	g <sub>FS</sub>	V <sub>DS</sub> =5V, I <sub>D</sub> =8A		36		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		1800		pF
Output Capacitance	C <sub>oSS</sub>			230		pF
Reverse Transfer Capacitance	C <sub>rSS</sub>			200		pF
Total gate charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4.5V, I <sub>D</sub> =8A		17.9		nC
Gate-source charge	Q <sub>gs</sub>			1.5		nC
Gate-drain charge	Q <sub>gd</sub>			4.7		nC
<b>SWITCHING PARAMETERS(note 2)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> =10V, V <sub>DD</sub> =10V, R <sub>L</sub> =1.2Ω, R <sub>GEN</sub> =3Ω		2.5		ns
Turn-on rise time	t <sub>r</sub>			7.2		ns
Turn-off delay time	t <sub>d(off)</sub>			49		ns
Turn-off fall time	t <sub>f</sub>			10.8		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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