



Micro Commercial Components



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SI2310

N-Channel Enhancement Mode Field Effect Transistor

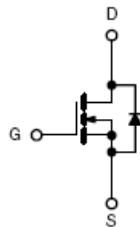
Features

- Halogen free available upon request by adding suffix "-HF"
Epoxy meets UL 94 V-0 flammability rating
Moisture Sensitivity Level 1
High power and current handing capability
Surface mount package
Marking Code: S10

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, P\_D, R\_thetaJA, T\_J, T\_STG.

Internal Block Diagram



SOT-23 package details including dimensions table, suggested solder pad layout, and pinout diagram.

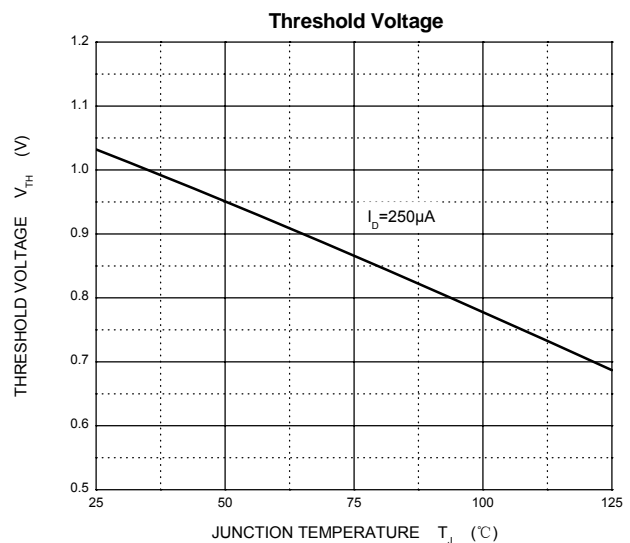
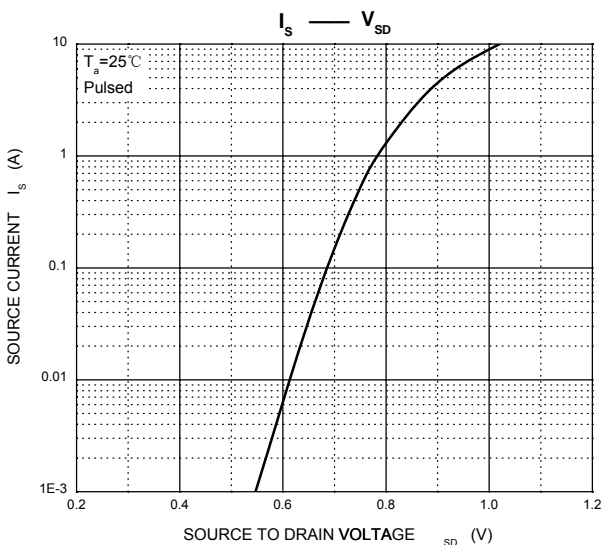
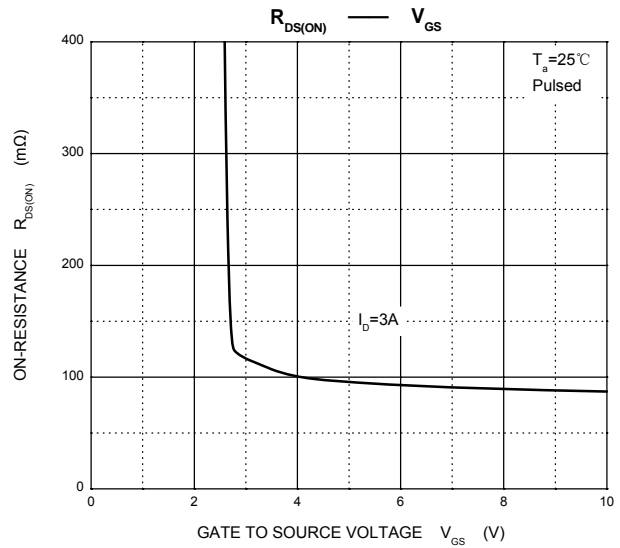
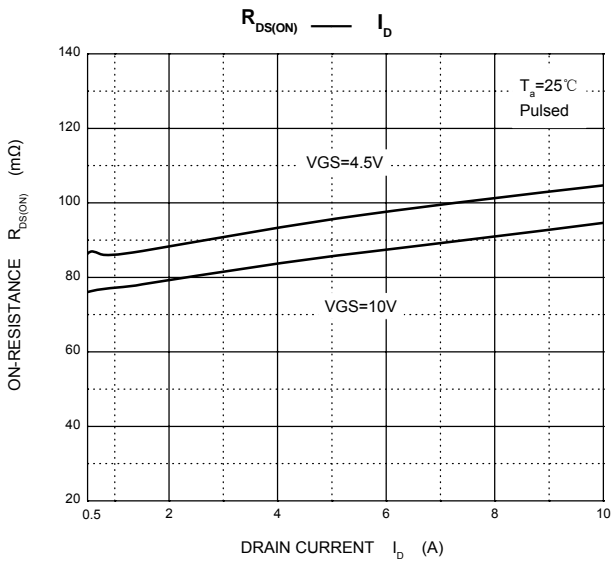
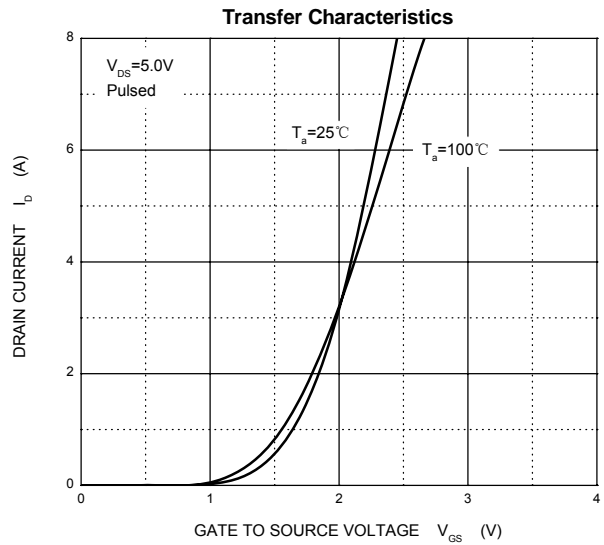
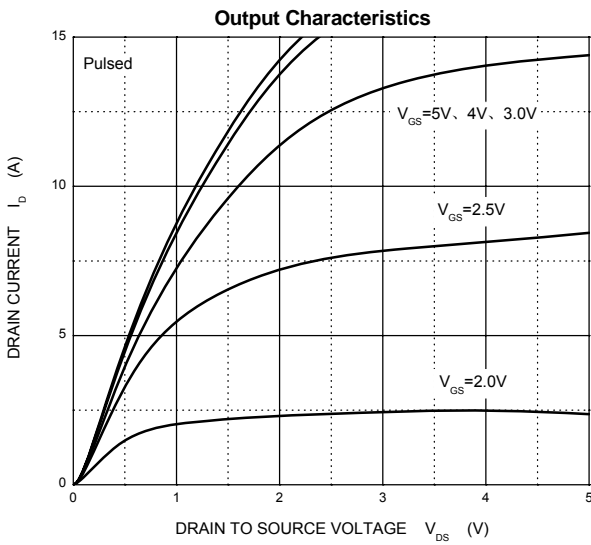
# SI2310

## ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 60V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$				$\pm 100$	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5		2	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 3A$			105	m $\Omega$
		$V_{GS} = 4.5V, I_D = 3A$			125	m $\Omega$
Forward transconductance (note 3)	$g_{FS}$	$V_{DS} = 15V, I_D = 2A$	1.4			S
Diode forward voltage (note 3)	$V_{SD}$	$I_S = 3A, V_{GS} = 0V$			1.2	V
<b>DYNAMIC CHARACTERISTICS (note 4)</b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 30V, V_{GS} = 0V, f = 1MHz$		247		pF
Output Capacitance	$C_{oss}$			34		pF
Reverse Transfer Capacitance	$C_{rss}$			19.5		pF
<b>SWITCHING CHARACTERISTICS (note 4)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DD} = 30V, I_D = 1.5A, R_{GEN} = 1\Omega$		6		ns
Turn-on rise time	$t_r$			15		ns
Turn-off delay time	$t_{d(off)}$			15		ns
Turn-off fall time	$t_f$			10		ns
Total Gate Charge	$Q_g$	$V_{DS} = 30V, V_{GS} = 4.5V, I_D = 3A$		6		nC
Gate-Source Charge	$Q_{gs}$			1		nC
Gate-Drain Charge	$Q_{gd}$			1.3		nC

**Notes :**

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board ,  $t_s \leq 10s$ .
3. Pulse Test : Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 0.5\%$ .
4. Guaranteed by design, not subject to producing.





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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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