



Micro Commercial Components 20736 Marilla Street Chatsworth

CA 91311

Phone: (818) 701-4933 Fax: (818) 701-4939 **SI2312**

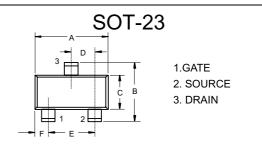
Features

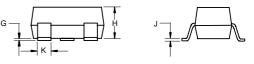
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- TrenchFET Power MOSFET
- Load Switch for Portable Devices
- Marking Code: S12

N-Channel Enhancement Mode Field Effect Transistor

Maximum Ratings @ 25°C Unless Otherwise Specified

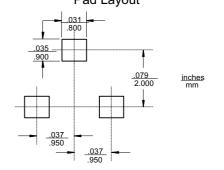
Symbol	Parameter	Rating	Unit			
V_{DS}	Drain-source Voltage	20	V			
I _D	Continuous Drain Current	5.0	Α			
Is	Continuous Source-Drain Diode Current	1.04	Α			
V_{GS}	Gate-source Voltage	±8	V			
P_D	Total Power Dissipation	0.35	W			
R∘JA	Thermal Resistance Junction to Ambient	357	°C/W			
TJ	Operating Junction Temperature	-55 to +150	$^{\circ}\mathbb{C}$			
T _{STG}	Storage Temperature	-55 to +150	$^{\circ}\!\mathbb{C}$			



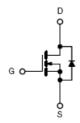


DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
Α	.110	.120	2.80	3.04	
В	.083	.104	2.10	2.64	
С	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
Е	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
Н	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



Internal Block Diagram





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T_a=25 ℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Тур	Max	Unit
Static	•					
Drain-source breakdown voltage	V(BR) DSS	V _{GS} = 0V, I _D =250μA	20			V
Gate-source leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1.0	μΑ
Gate-source threshold voltage	V _G S(th)	V _{DS} =V _{GS} , I _D =250μA	0.45		1.0	V
		V _{GS} =4.5V, I _D =5.0A			0.0318	
Drain-source on-state resistance ^a	RDS(on)	V _{GS} =2.5V, I _D =4.7A			0.0356	Ω
		V _{GS} =1.8V, I _D =4.3A			0.0414	
Forward tranconductance ^a	gfs	V _{DS} =10V, I _D =5.0A	6			S
Dynamic ^b						
Input capacitance	C _{iss}			865		
Output capacitance	Coss	V _{DS} =10V,V _{GS} =0V,f =1MHz		105		pF
Reverse transfer capacitance	C _{rss}			55		
Gate resistance	Rg	f=1MHz	0.5		4.8	Ω
Turn-on delay Time	td(on)				10	
Rise time	tr	V _{GEN} =5V,V _{DD} =10V,			20	
Turn-off Delay time	td(off)	I_D =4A,R _G =1 Ω , R _L =2.2 Ω			32	ns
Fall yime	tf				12	
Drain-source body diode characteri	Drain-source body diode characteristics					
Forward diode voltage	V _{SD}	V _{GS} =0V,I _S =4A		0.75	1.2	V

Notes:

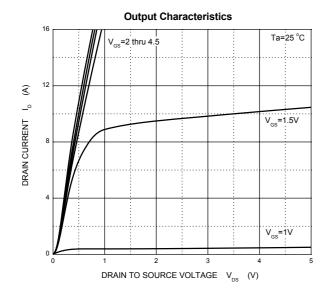
- a. Pulse Test : pulse width $\leq 300 \mu s$, duty cycle $\leq 2\%$.
- b. These parameters have no way to verify.

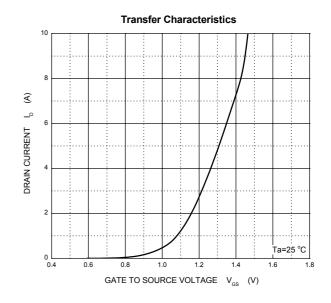
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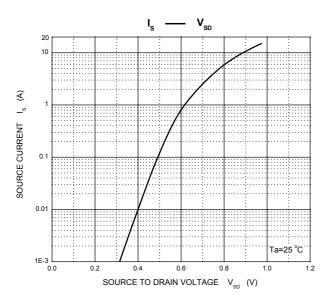


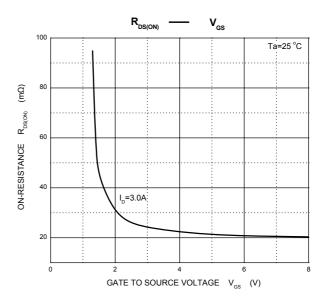
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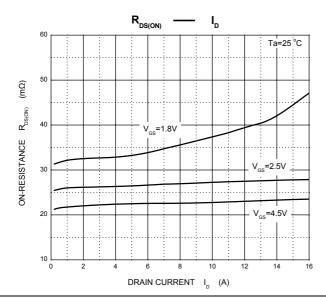
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Ordering Information:

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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