



THE DATASHEET OF SI2321-TP





Micro Commercial Components



Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

SI2321

P-Channel Enhancement Mode Field Effect Transistor

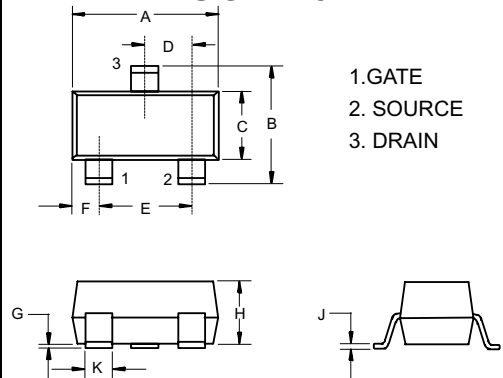
Features

- Halogen free available upon request by adding suffix "-HF"
- -20V, -2.9A, $R_{DS(ON)}=57m\Omega @ V_{GS}=-4.5V$
 $R_{DS(ON)}=76m\Omega @ V_{GS}=-2.5V$
- High dense cell design for extremely low $R_{DS(ON)}$
- Rugged and reliable
- High Speed Switching
- SOT-23 Package
- Marking Code: S21 K
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings @ 25°C Unless Otherwise Specified

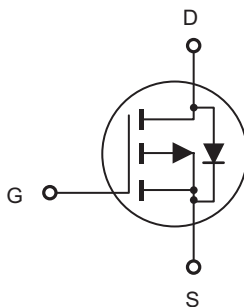
Symbol	Parameter	Rating	Unit
V_{DS}	Drain-source Voltage	-20	V
I_D	Drain Current-Continuous	-2.9	A
I_{DM}	Drain Current-Pulsed	-12	A
I_S	Continuous Source-Drain Diode Current	-0.59	A
V_{GS}	Gate-source Voltage	± 12	V
P_D	Total Power Dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	357	$^{\circ}C/W$
T_J	Operating Junction Temperature	-55 to +150	$^{\circ}C$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}C$

SOT-23

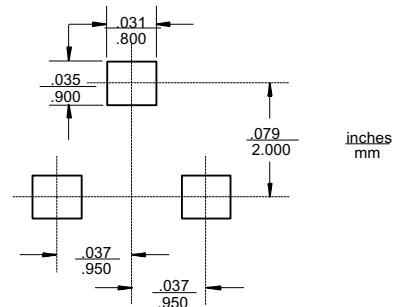


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Internal Block Diagram



Suggested Solder Pad Layout



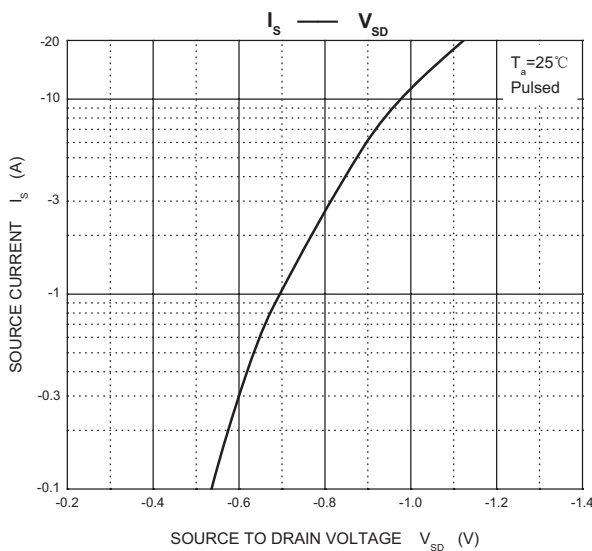
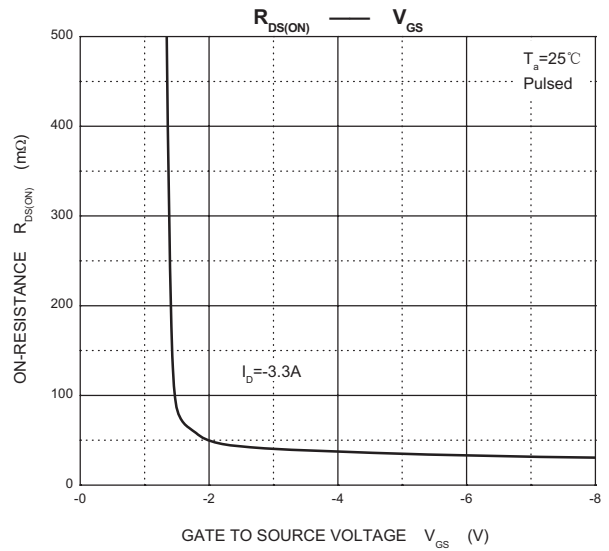
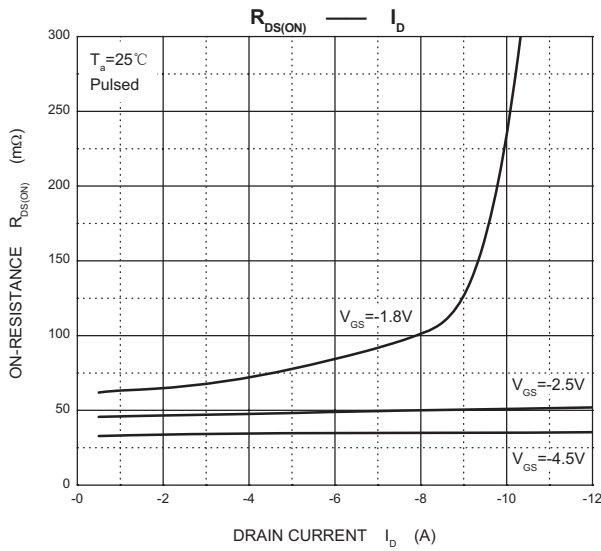
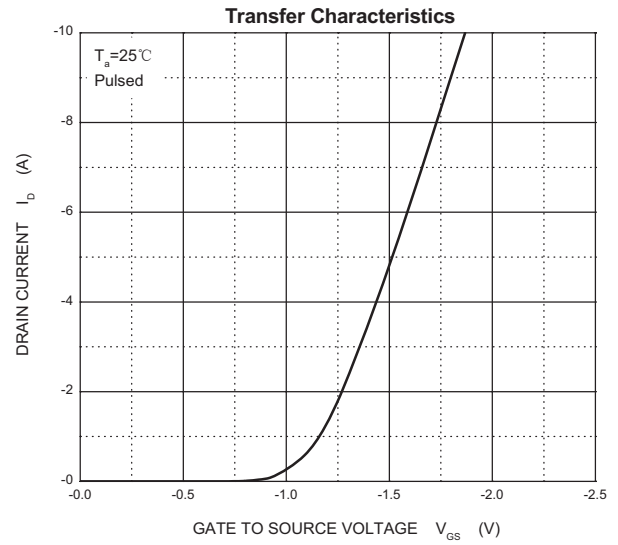
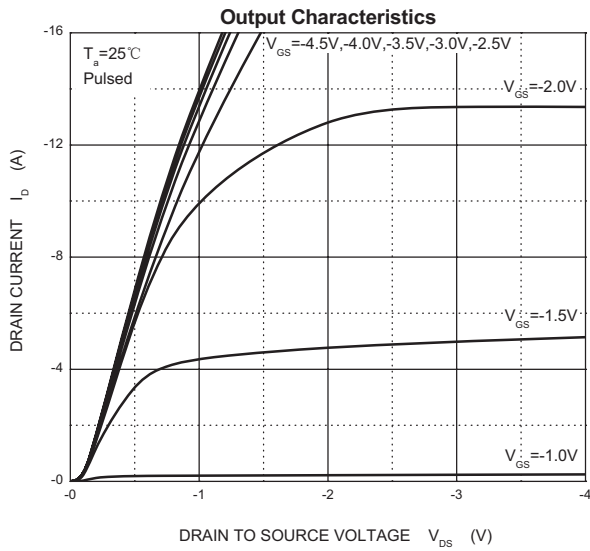
Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D = -10μA	-20			V
Gate-source leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±12V			±100	nA
Zero Gate voltage drain current	I _{DSS}	V _{DS} = -16V, V _{GS} = 0V			-1.0	μA
Gate-source threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.4		-0.9	V
Drain-source on-state resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D = -3.3A			0.057	Ω
		V _{GS} = -2.5V, I _D = -2.8A			0.076	
		V _{GS} = -1.8V, I _D = -2.3A			0.110	
Forward tranconductance	g _{fs}	V _{DS} = -5V, I _D = -3.3A	3			S
Forward diode voltage	V _{SD}	V _{GS} = 0V, I _S = -1.6A			-1.2	V
Dynamic						
Input capacitance ^{a,b}	C _{iss}	V _{DS} = -6V, V _{GS} = 0V, f = 1MHz		715		pF
Output capacitance ^{a,b}	C _{oss}			170		
Reverse transfer capacitance ^{a,b}	C _{rss}			120		
Total Gate charge ^a	Q _g	V _{DS} = -6V, V _{GS} = -4.5V, I _D = -3.3A			13	nc
Gate-Source charge ^a	Q _{gs}			1.2		nc
Gate-Drain charge ^a	Q _{gd}			2.2		nc
Switching^{a,b}						
Turn-on delay Time	t _{d(on)}	V _{GEN} = -4.5V, V _{DD} = -6V, I _D = -1.0A, R _G = 6Ω, R _L = 6Ω			25	ns
Rise time	t _r				55	
Turn-off delay time	t _{d(off)}				90	
Fall time	t _f				60	

Notes :

a. Pulse Test : pulse width ≤ 300μs, duty cycle ≤ 2%.

SI2321





TM

Micro Commercial Components

Ordering Information :

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

www.mccsemi.com

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ [View SI2321-TP on WIN SOURCE](#)
- ⊖ [Micro Commercial Co](#) Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management