



SI2101

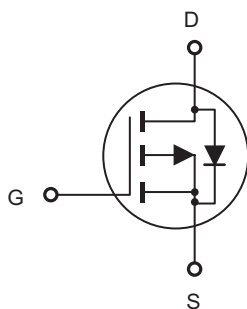
Features

- Halogen free available upon request by adding suffix "-HF"
- Leading Trench Technology for Low RDS(on)
Extending Battery Life
- High Speed Switching
- Marking Code: TS1
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings @ 25°C Unless Otherwise Specified

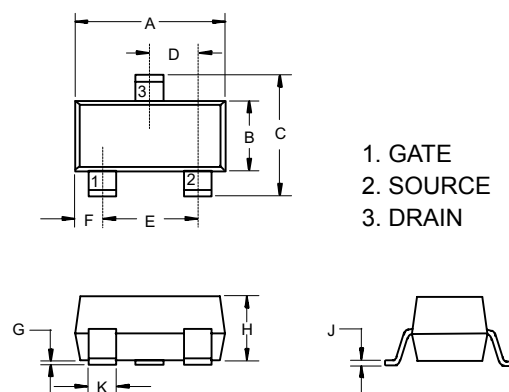
Symbol	Parameter	Rating	Unit
V_{DS}	Drain-source Voltage	-20	V
I_D	Drain Current-Continuous	-1.4	A
I_{DM}	Drain Current-Pulsed ^a	-3.0	A
V_{GS}	Gate-source Voltage	± 8	V
P_D	Total Power Dissipation	0.29	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient ^b	431	°C/W
T_J	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Internal Block Diagram



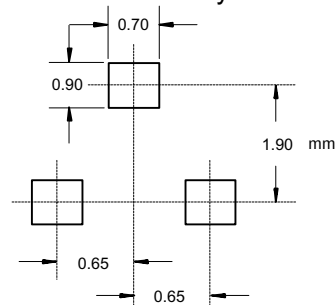
P-Channel Enhancement Mode Field Effect Transistor

SOT-323



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65 Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

Suggested Solder Pad Layout



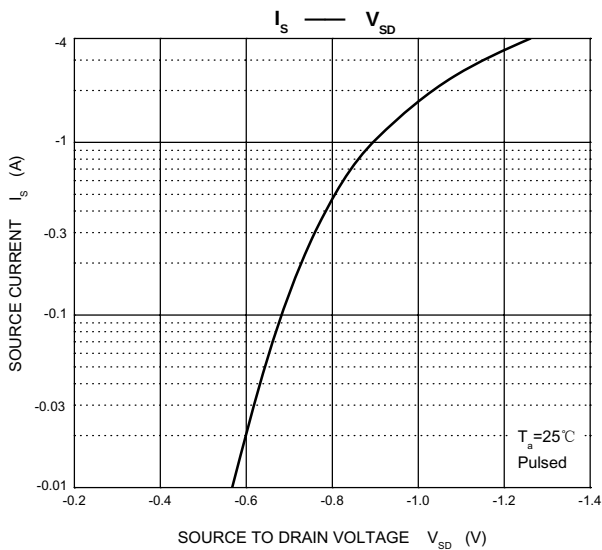
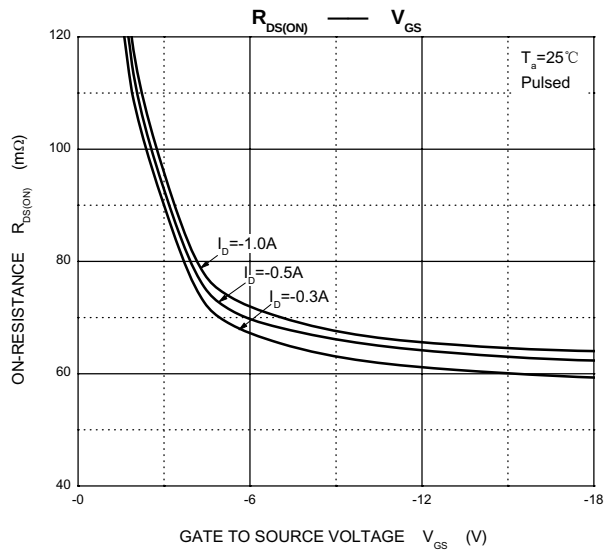
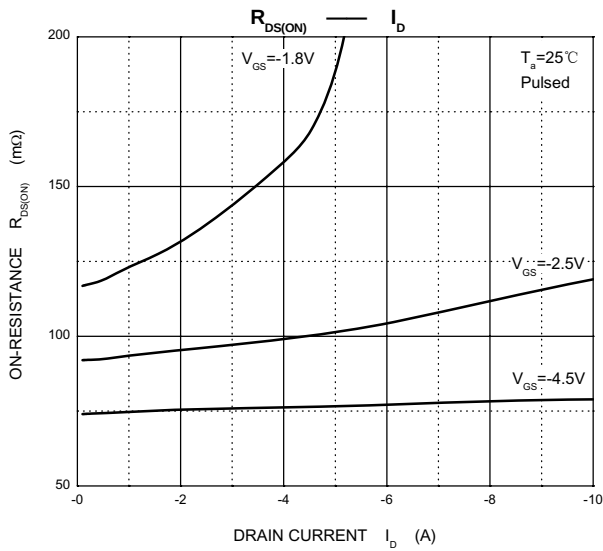
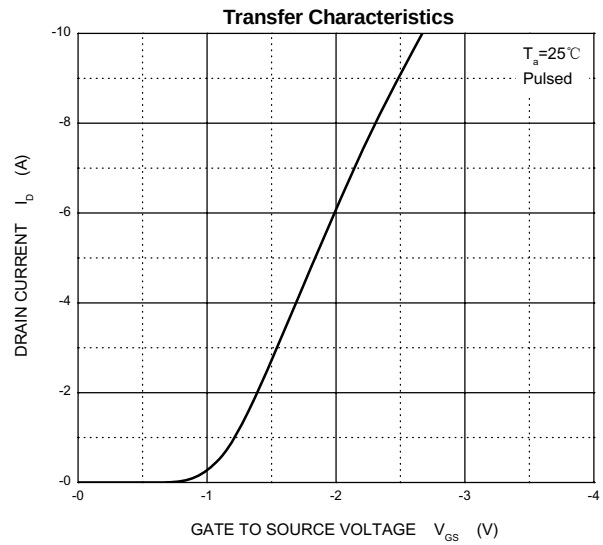
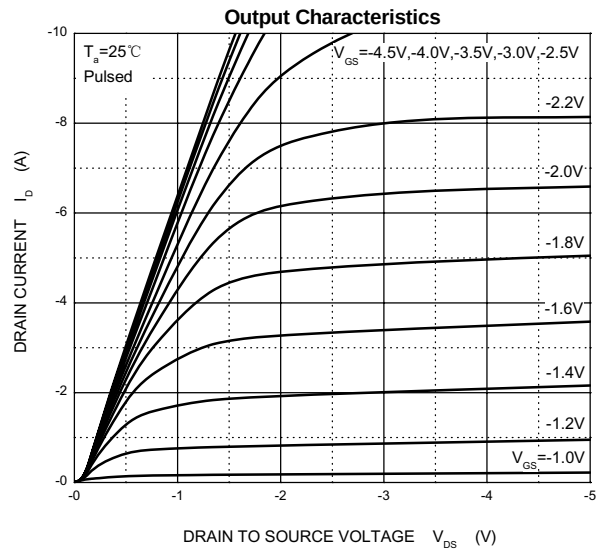
Electrical Characteristics T_A = 25°C unless otherwise noted

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
OFF CHARACTERISSTICS						
Drain-Source Breakdown Voltage	V _{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	μA
OFF CHARACTERISSTICS (note 1)						
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.45	-0.7	-1.2	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-1.0A			100	mΩ
		V _{GS} =-2.5V, I _D =-0.5A			140	
		V _{GS} =-1.8V, I _D =-0.3A			210	
CHARGES AND CAPACITANCES (note 3)						
Input Capacitance	C _{iSS}	V _{DS} =-8.0V,V _{GS} =0V,f =1MHz		640		pF
Output Capacitance	C _{oSS}			120		
Reverse Transfer Capacitance	C _{rSS}			82		
SWITCHING CHARACTERISSTICS (note 2,3)						
Turn-On Delay Time	t _{d(on)}	V _{GS} =-4.5V,V _{DD} =-4.0V, I _D =-1.0A,R _G =6.2Ω		6.2		ns
Rise Time	t _r			15		
Turn-Off Delay Time	t _{d(off)}			26		
Fall Time	t _f			18		
Drain-source Body diode characteristics						
Forward Diode Voltage	V _{SD}	V _{GS} =0V,I _S =-0.3A		-0.62	-1.2	V

Notes :

1. Pulse Test : pulse width ≤ 300μs, duty cycle ≤ 2%.
2. Switching characteristics are independent of operating junction temperatures.
3. These parameters have no way to verify.

Typical Characteristics



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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