

Features

- N-Channel Switch with Low $R_{DS(ON)}$
- Operated at Low Logic Level Gate Drive
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

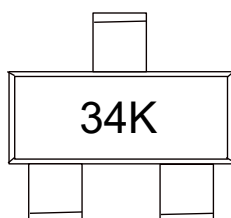
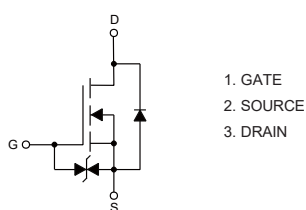
Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 625°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	20	V
Gate -Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	0.75	A
Pulsed Drain Current ^(Note 2)	I_{DM}	3.0	A
Power Dissipation ^(Note 3)	P_D	0.2	W

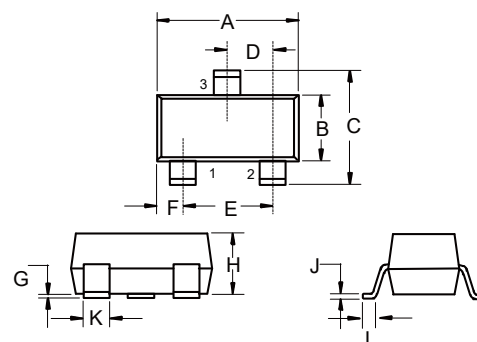
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure and Marking Code



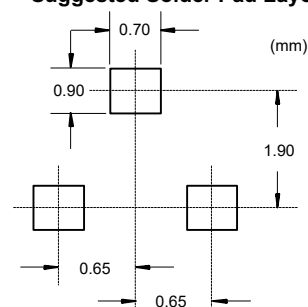
N-Channel MOSFET

SOT-323



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026		0.65		TYP.
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.044	0.90	1.10	
J	0.002	0.010	0.05	0.25	
K	0.006	0.016	0.15	0.40	
L	0.010	0.018	0.26	0.46	

Suggested Solder Pad Layout



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	20			V
Gate-Threshold Voltage ^(Note 4)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.35	0.75	1.0	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1.0	μA
Gate-body Leakage Current	I _{GSS}	V _{GS} =± 10V, V _{DS} =0V			±20	μA
Drain-Source On-Resistance ^(Note 4)	R _{DS(on)}	V _{GS} =4.5V, I _D =650mA		0.19	0.38	Ω
		V _{GS} =2.5V, I _D =550mA		0.26	0.45	
		V _{GS} =1.8V, I _D =450mA		0.35	0.80	
Forward transconductance	g _{FS}	V _{DS} =10V, I _D =800mA		1.6		S
Diode Forward Voltage ^(Note 4)	V _{SD}	V _{GS} =0V, I _S =150mA			1.2	V
Dynamic Characteristics ^(Note 5)						
Input Capacitance	C _{iss}	V _{DS} =16V,V _{GS} =0V, f=1MHz		79	120	pF
Output Capacitance	C _{oss}			13	20	
Reverse Transfer Capacitance	C _{rss}			9	15	
Switching Characteristics ^(Note 5)						
Turn-on Delay Time	t _{d(on)}	V _{DS} =10V,V _{GS} =4.5V,I _D =500 mA, R _{GEN} =10Ω		6.7		ns
Turn-off Delay Time	t _{d(off)}			17.3		
Rise Time	t _r			4.8		
Fall Time	t _f			7.4		

Notes:

2. Repetitive Rating: Pulse width limited by maximum junction temperature.
3. This test is performed with no heat sink at Ta=25°C.
4. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 0.5\%$.
5. These parameters have no way to verify.

Curve Characteristics

Fig. 1 - Output Characteristics

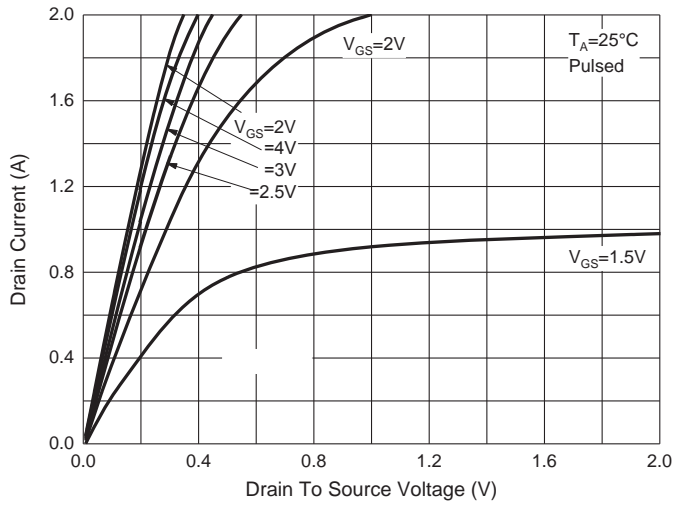


Fig. 2 - Transfer Characteristics

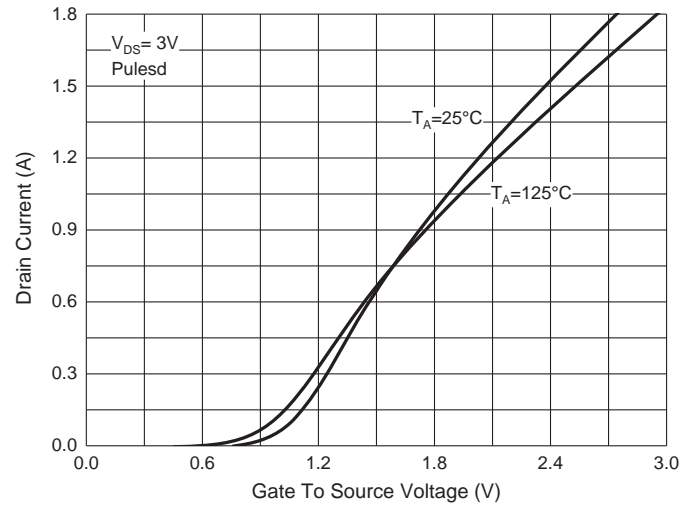


Fig. 3 - $R_{DS(ON)} - I_D$

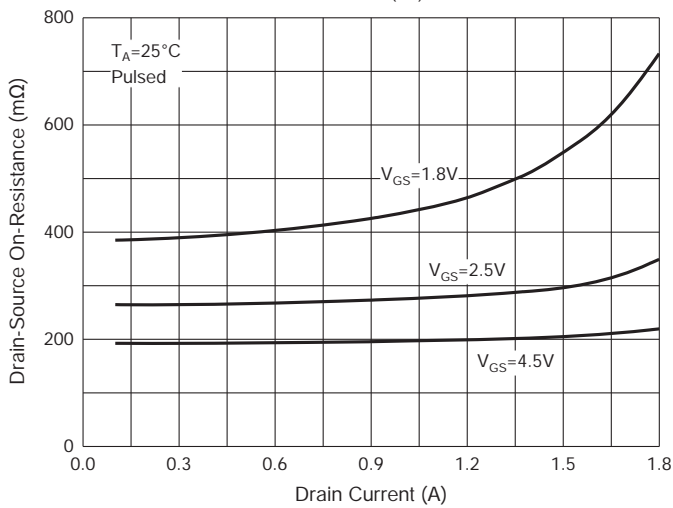


Fig. 4 - $R_{DS(ON)} - V_{GS}$

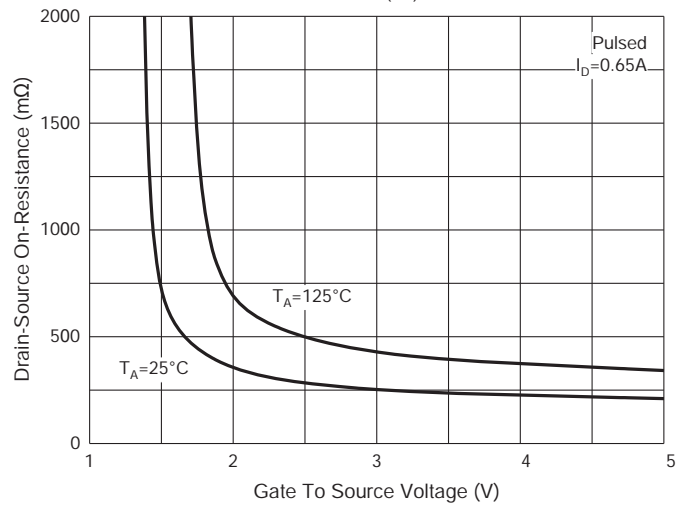


Fig. 5 - $I_S - V_{SD}$

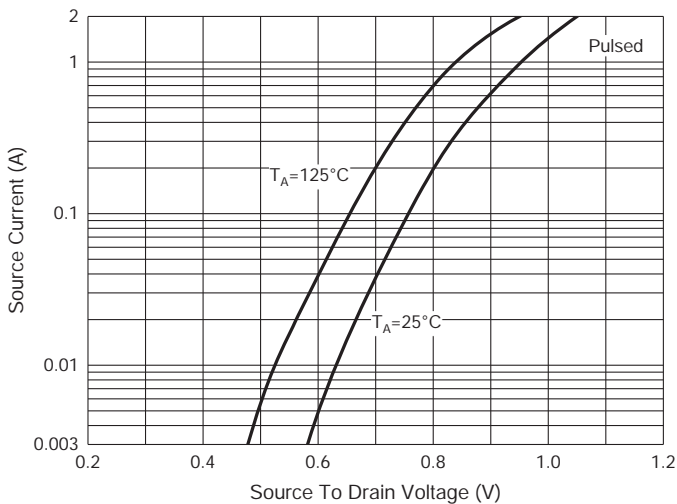
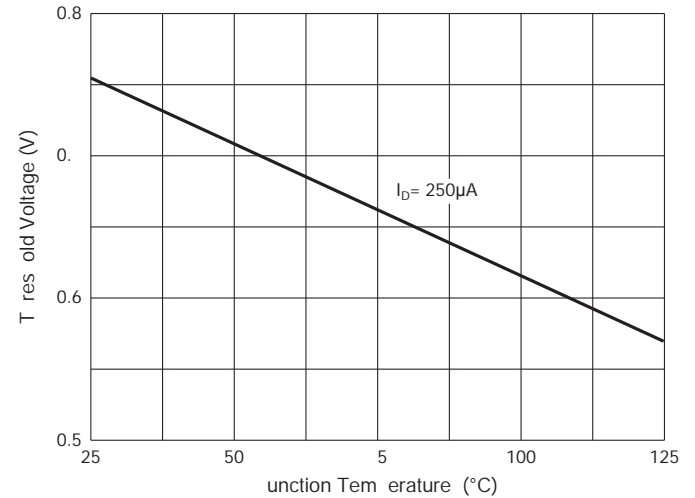


Fig. 6 - Threshold Voltage



Ordering Information

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

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