

Features

- Energy Efficient
- High-Speed Switching
- 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

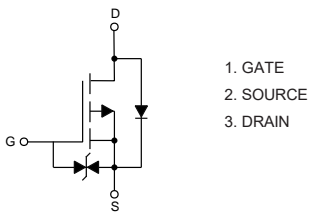
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 556°C/W Junction to Ambient^(Note 2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-0.13	A
Pulsed Drain Current ^(Note 3)	I_{DM}	-0.52	A
Total Power Dissipation	P_D	225	mW

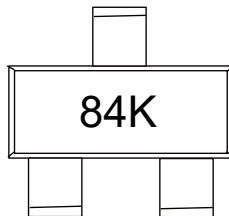
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. Surface Mounted on FR4 Board , $t \leq 10s$.
3. Pulse Width Limited by Junction Temperature.

Internal Structure and Marking Code

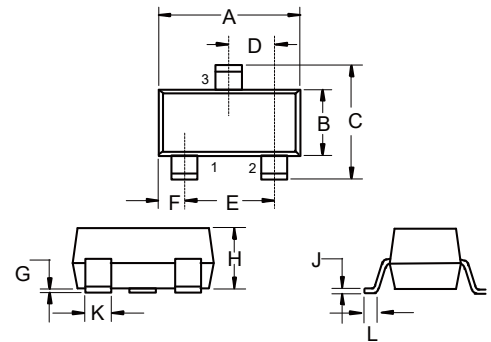


1. GATE
2. SOURCE
3. DRAIN



P-CHANNEL MOSFET

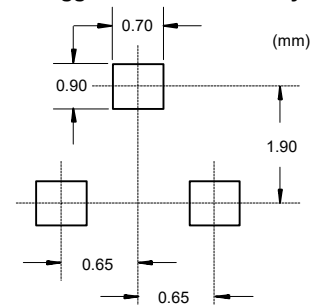
SOT-323



DIMENSIONS

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 @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-50			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-50V, V_{GS}=0V$			-1	μA
Gate-Threshold Voltage ^(Note 4)	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.9	-1.7	-2	V
Drain-Source On-Resistance ^(Note 4)	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-0.1A$		2.3	8	Ω
		$V_{GS}=-5V, I_D=-0.1A$		2.7	10	
Forward Transconductance ^(Note 4)	g_{FS}	$V_{DS}=-25V, I_D=-0.1A$	50			mS
Dynamic Characteristics^(Note 5)						
Input Capacitance	C_{iss}	$V_{DS}=-5V, V_{GS}=0V, f=1MHz$		22		pF
Output Capacitance	C_{oss}			7.5		
Reverse Transfer Capacitance	C_{rss}			4		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-30V, V_{GEN}=-10V, R_G=3.9\Omega, R_L=75\Omega, I_{DS}=-0.2A$		5.5		ns
Turn-On Rise Time	t_r			4.7		
Turn-Off Delay Time	$t_{d(off)}$			27		
Turn-Off Fall Time	t_f			20		
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S				-0.13	A
Pulsed Diode Forward Current	I_{SM}				-0.52	
Body Diode Voltage	V_{SD}	$I_{SD}=-0.13A, V_{GS}=0V$			-1.2	V

Note 4. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

5. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

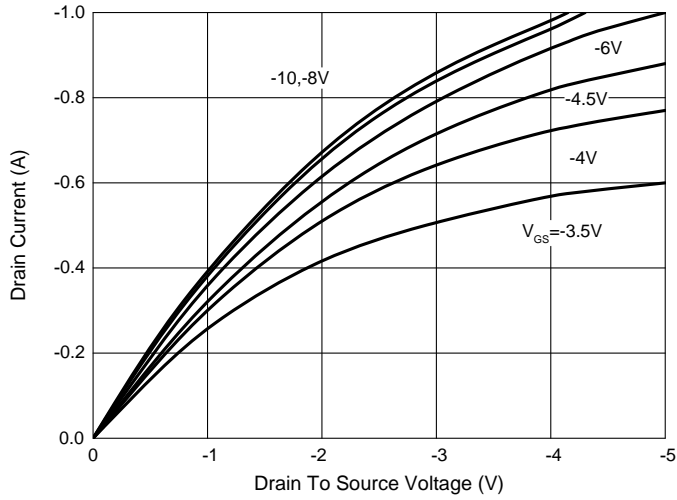


Fig. 2 - Transfer Characteristics

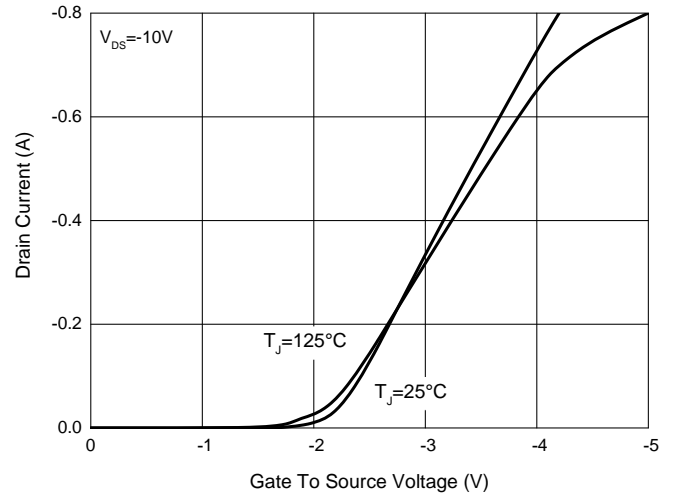


Fig. 3 - $R_{DS(ON)} - I_D$

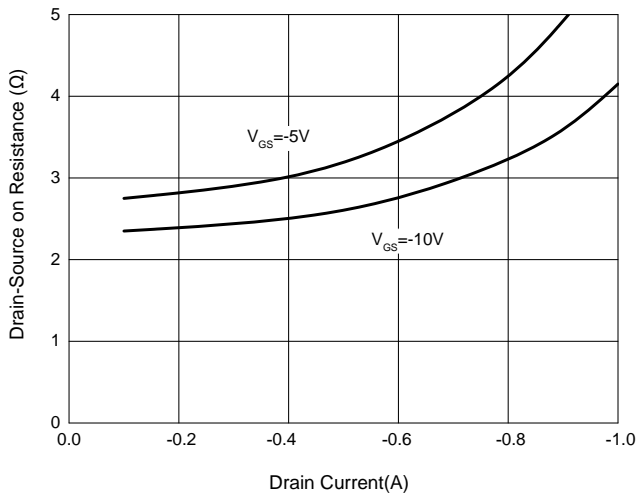


Fig. 4 - $R_{DS(ON)} - V_{GS}$

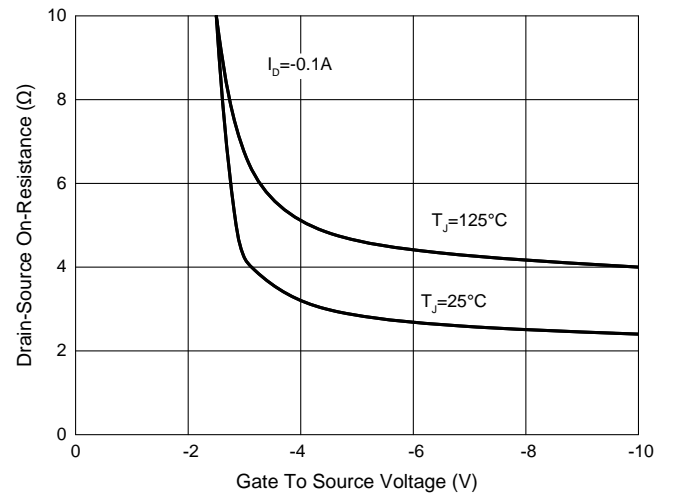


Fig. 5 - $I_S - V_{SD}$

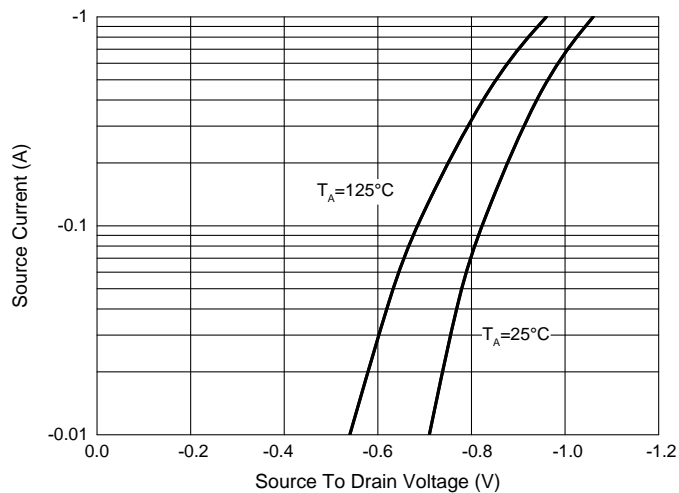
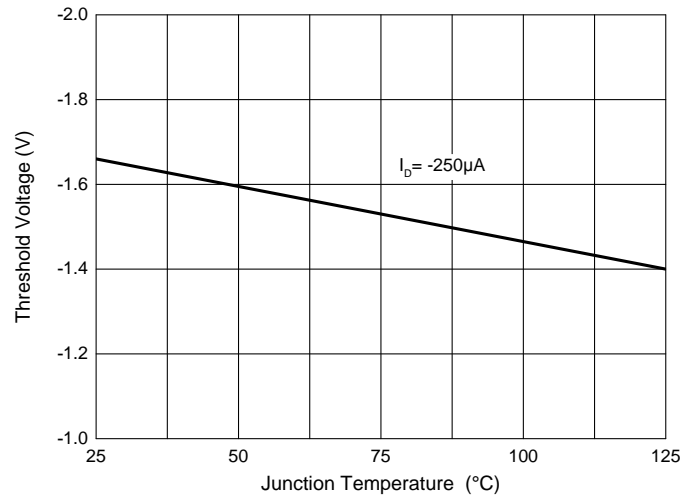


Fig. 6 - Threshold Voltage



Ordering Information

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

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