STC6332

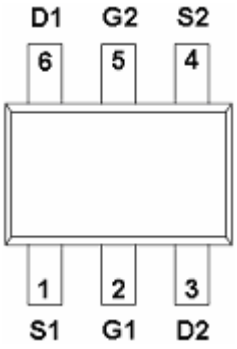
N&P Pair Enhancement Mode MOSFET

0.95A / -1A

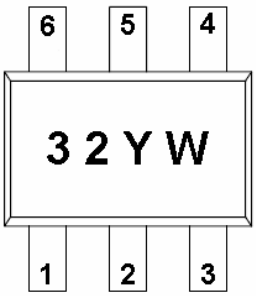
DESCRIPTION

The STC6332 is the N & P-Channel enhancement mode power field effect transistor using high cell density DMOS trench technology. This high density process is especially tailored to minimize on-state resistance and provide superior switching performance. This device is particularly suited for low voltage application such as notebook computer power management and other battery powered circuits, where high-side switching, low in-line power loss and resistance to transient are needed.

PIN CONFIGURATION SOT-363/SC-70-6L



PART MARKING



Y : Year Code
W : Week Code

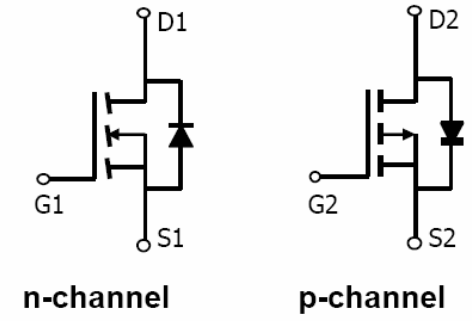
FEATURE

N-Channel

- 20V/0.95A, $R_{DS(ON)}$ = 380mΩ (Typ.) @V_{GS} = 4.5V
- 20V/0.75A, $R_{DS(ON)}$ = 450mΩ @V_{GS} = 2.5V
- 20V/0.65A, $R_{DS(ON)}$ = 800mΩ @V_{GS} = 1.8V

P-Channel

- -20V/-1.0A, $R_{DS(ON)}$ = 520mΩ(Typ.) @V_{GS} = -4.5V
- -20V/-0.8A, $R_{DS(ON)}$= 700mΩ @V_{GS} = - 2.5V
- -20V/-0.7A, $R_{DS(ON)}$= 700mΩ @V_{GS} = - 1.8V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- SOT-363(SC-70-6L) package design



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STC6332

N&P Pair Enhancement Mode MOSFET

0.95A / -1A

ABSOULTE MAXIMUM RATINGS (Ta = 25℃ Unless otherwise noted)

Parameter		Symbol	Typical N	Typical P	Unit
Drain-Source Voltage		V_{DSS}	20	-20	V
Gate-Source Voltage		V_{GSS}	±12	±12	V
Continuous Drain Current (TJ=150℃)	T_A=25℃ T_A=80℃	I_D	1.2 0.9	-1.0 -0.7	A
Pulsed Drain Current		I_{DM}	4	-3	A
Continuous Source Current (Diode Conduction)		I_S	0.6	-0.6	A
Power Dissipation	T_A=25℃ T_A=70℃	P_D	0.3 0.19		W
Operation Junction Temperature		T_J	-55/150		℃
Storgae Temperature Range		T_{STG}	-55/150		℃
Thermal Resistance-Junction to Ambient	T≦10Sec Sready State	$R_{\theta JA}$	360 400	360 400	℃/W

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STC6332

Lead-free

N&P Pair Enhancement Mode MOSFET

0.95A / -1A

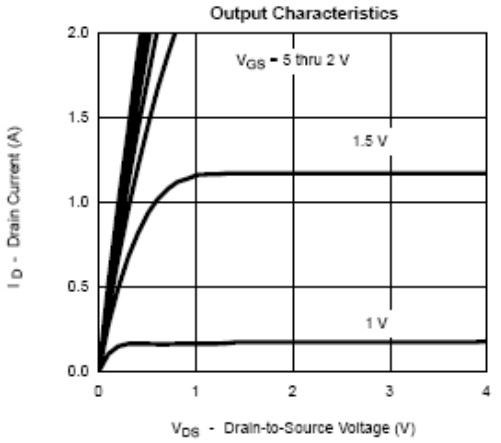
ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

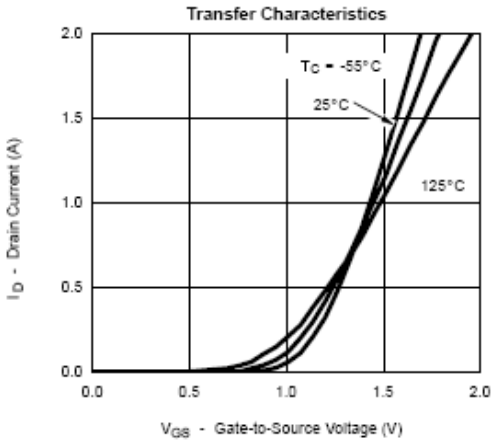
Parameter	Symbol	Condition		Min	Typ	Max	Unit
Static							
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250uA V_{GS}=0V,I_D=-250uA	N P	20 -20			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS,I_D=250uA V_{DS}=VGS,I_D=-250uA	N P	0.35 -0.35		1.0 -1.0	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±12V V_{DS}=0V,V_{GS}=±12V	N P			100 -100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V,V_{GS}=0V V_{DS}=-20V,V_{GS}=0V	N P			1 -1	uA
	T_J=55℃	V_{DS}=20V,V_{GS}=0V V_{DS}=-20V,V_{GS}=0V	N P			5 -5	
On-State Drain Current	$I_{D(on)}$	V_{DS}≧4.5V,V_{GS}=5V V_{DS}≦-4.5V,V_{GS}=-5V	N P	2 -2			A
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D=0.95A V_{GS}=-4.5V,I_D=-1.0A	N P		0.26 0.42	0.38 0.52	Ω
		V_{GS}=2.5V, I_D=0.75A V_{GS}=-2.5V,I_D=-0.8 A	N P		0.32 0.58	0.45 0.70	
		V_{GS}=1.8V, I_D=0.65A V_{GS}=-1.8V,I_D=-0.5 A	N P		0.42 0.75	0.80 0.95	
Forward Tran Conductance	gfs	V_{DS}=10V,I_D=1.2A V_{DS}=-10V,I_D=-1.0A	N P		2.6 1.5		S
Diode Forward Voltage	V_{SD}	I_S=0.5A,V_{GS}=0V I_S=-0.5A,V_{GS}=0V	N P		0.8 -0.8	1.2 -1.2	V
Dynamic							
Total Gate Charge	Q_g	**N-Channel** V_{DS}=10V,V_{GS}=4.5V I_D≡1.2A **P-Channel** V_{DS}=-10V,V_{GS}=-4.5V I_D≡-1.0A	N P		1.2 1.1	2.0 1.8	nC
Gate-Source Charge	Q_{gs}		N P		0.2 0.3		
Gate-Drain Charge	Q_{gd}		N P		0.3 0.2		
Turn-On Time	$t_{d(on)}$ tr	**N-Channel** V_{DS}=10V,R_L=20Ω I_D=0.5A,R_{GEN}=6Ω V_{GEN}=4.5V **P-Channel** V_{DS}=-10V,R_L=20Ω I_D=-0.5A,R_{GEN}=-6Ω V_{GEN}=-4.5V	N P		15 18	25 30	nS
			N P		20 25	30 40	
Turn-Off Time	$t_{d(off)}$ tf		N P		25 20	40 30	
			N P		12 12	20 20	

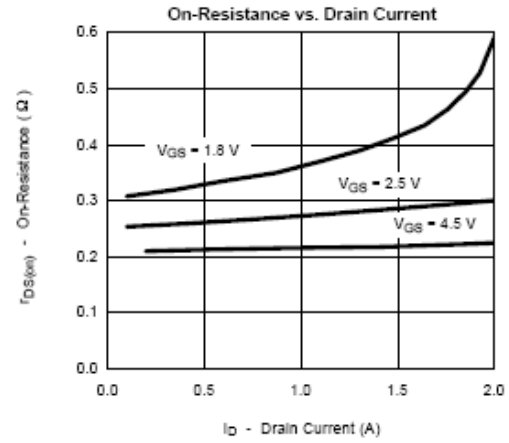
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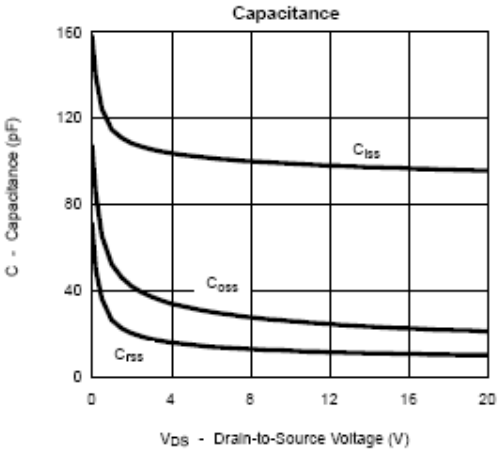
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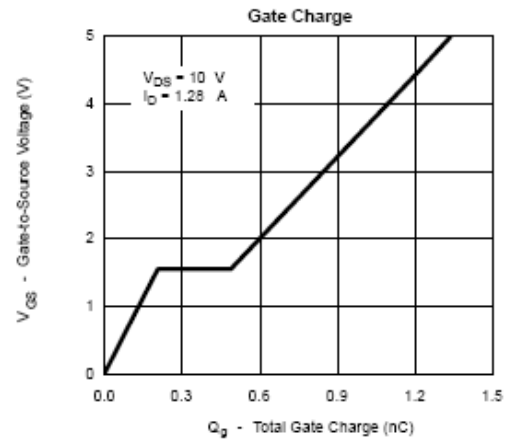
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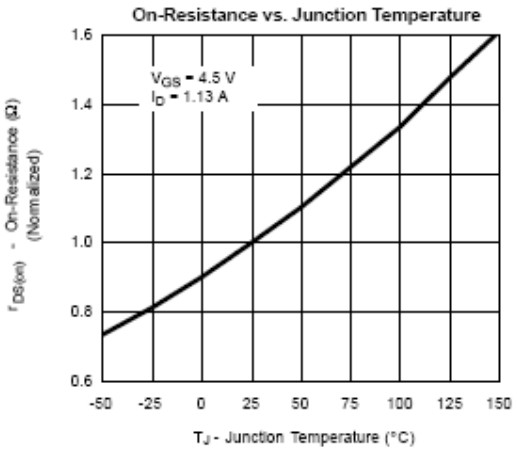








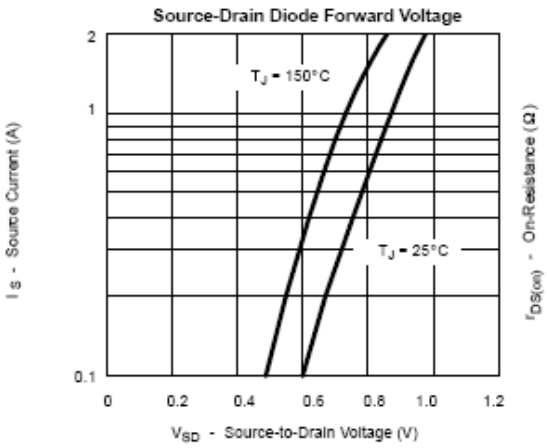


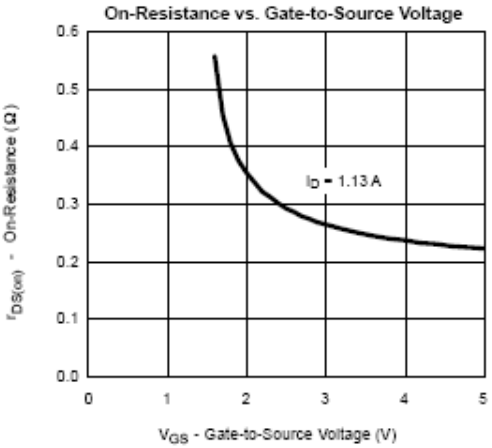


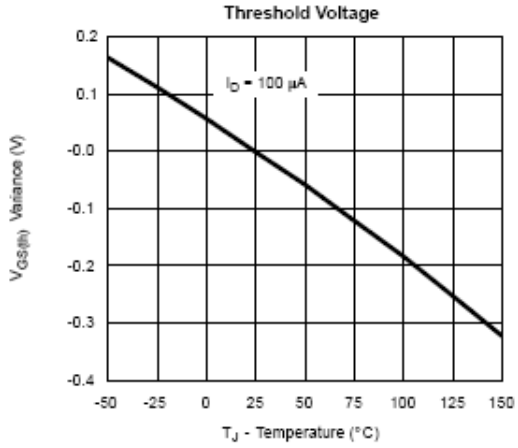
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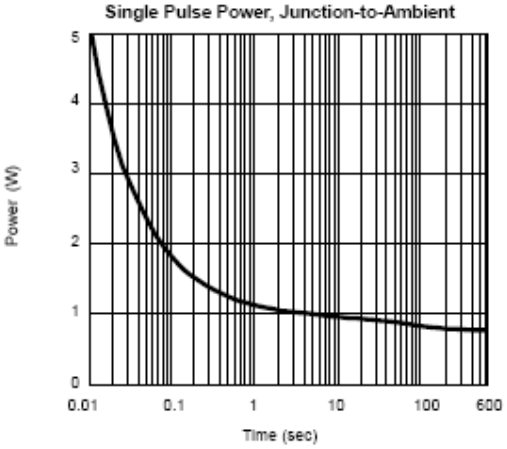
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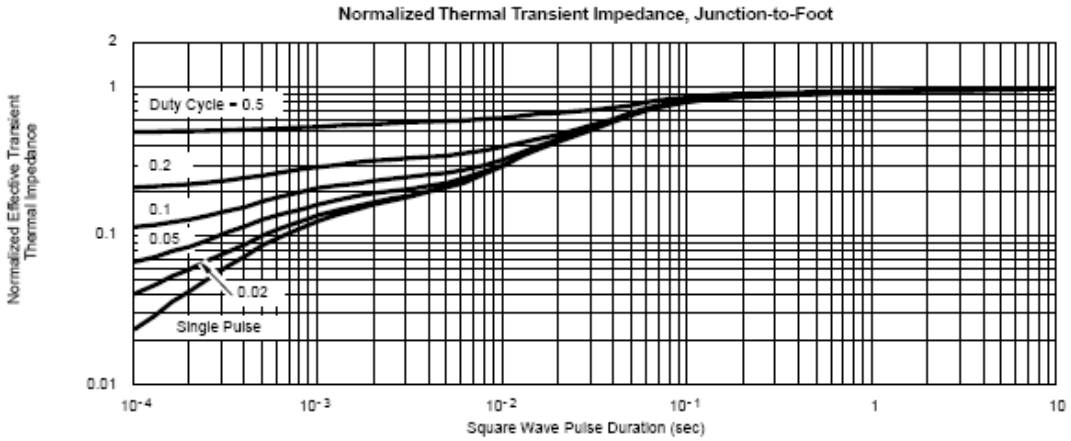
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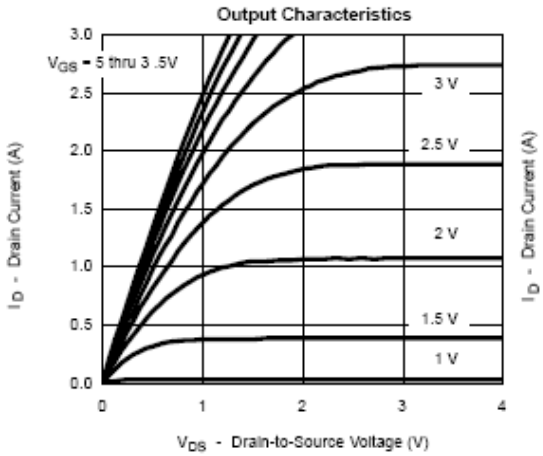


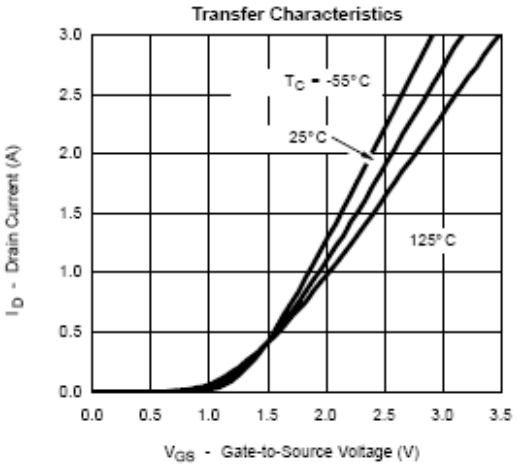


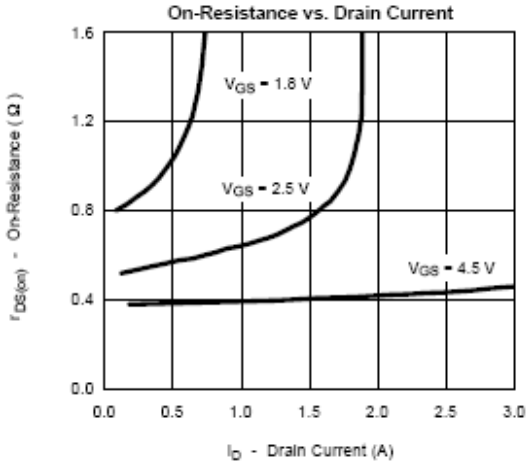
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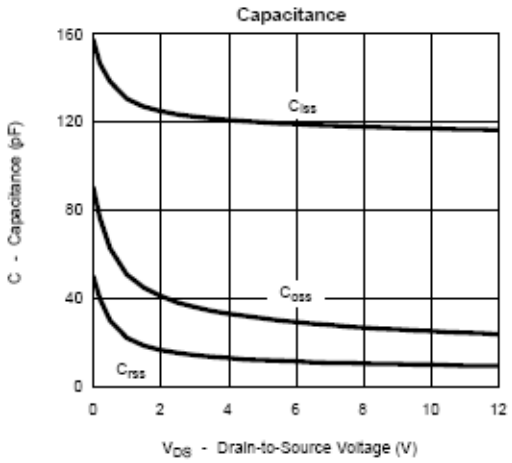
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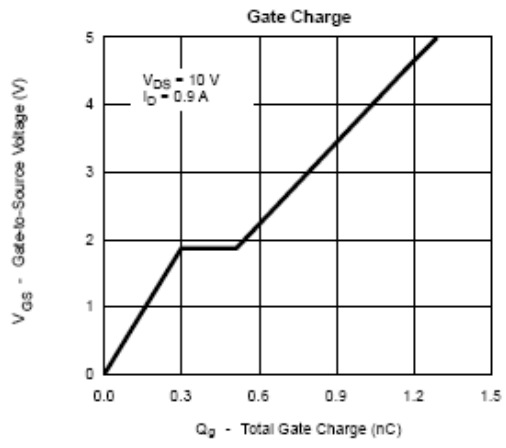
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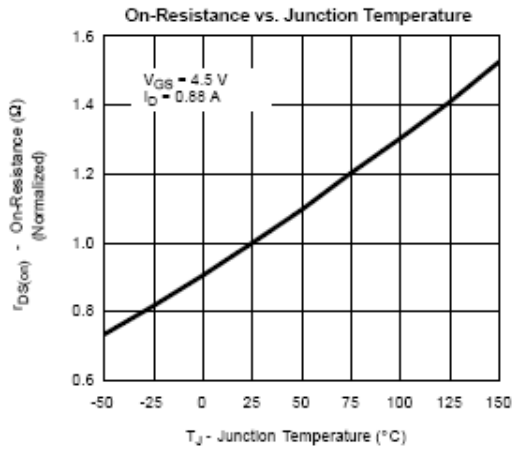








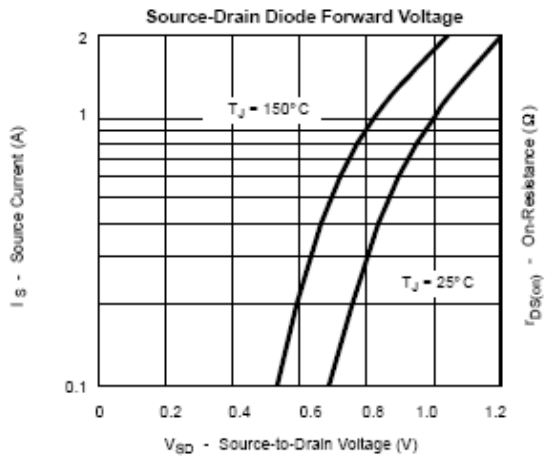


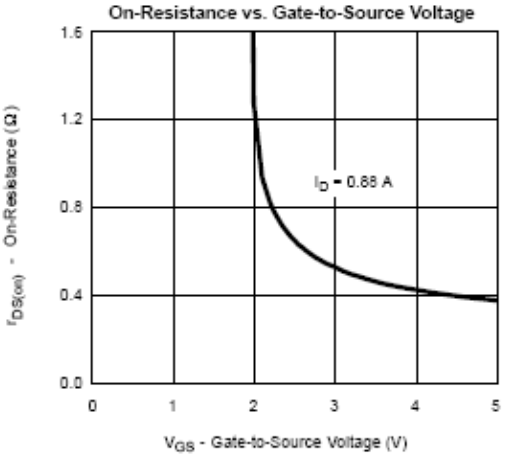


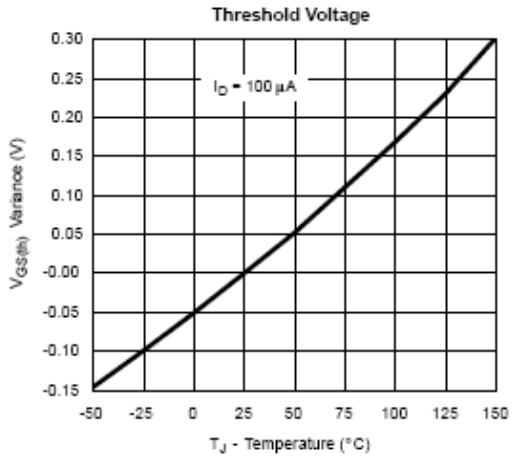
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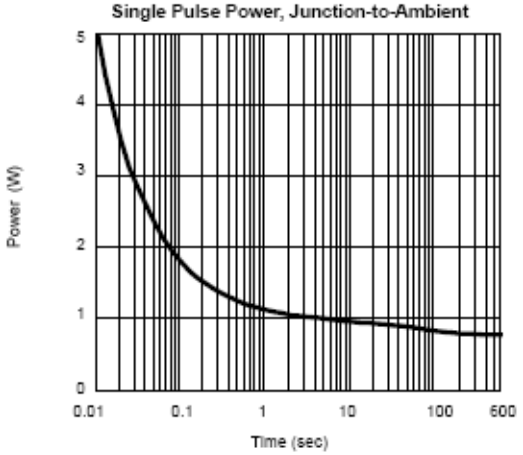
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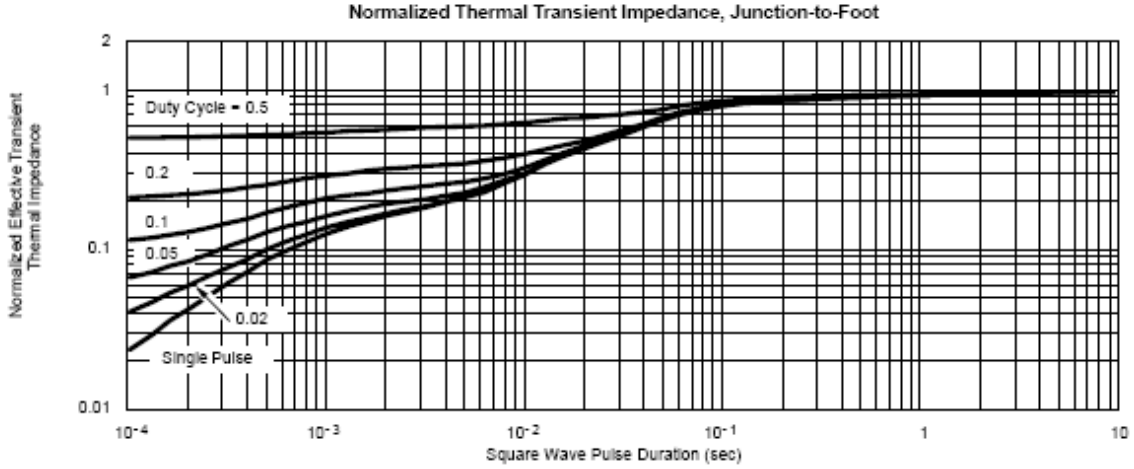
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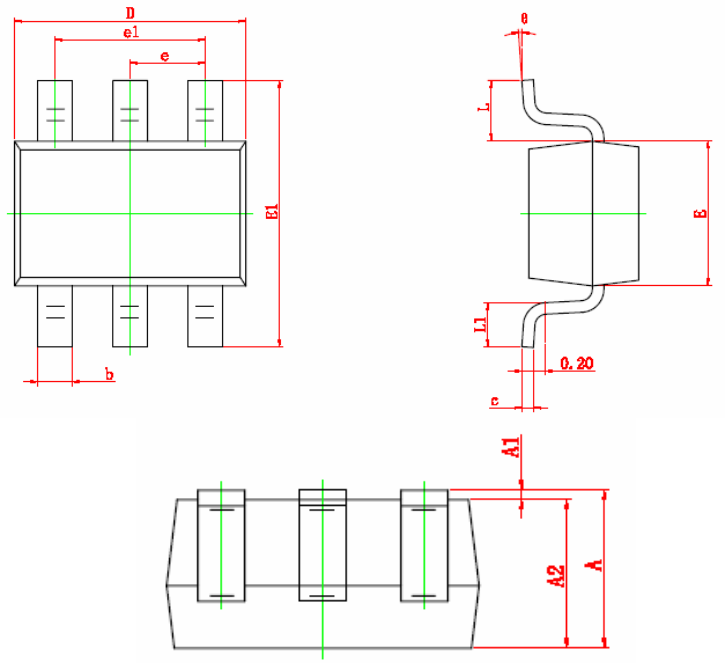




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SOP-8 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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