



SPP8803

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP8803 is the Dual P-Channel logic enhancement mode power field effect transistors are produced using high cell density , DMOS trench technology.

This high density process is especially tailored to minimize on-state resistance.

These devices are particularly suited for low voltage application , notebook computer power management and other battery powered circuits where high-side switching .

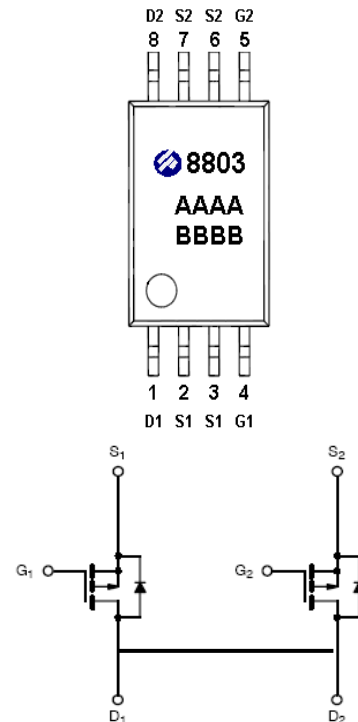
FEATURES

- ◆ -20V/-7.0A, $R_{DS(ON)}=20m\Omega@V_{GS}=-4.5V$
- ◆ -20V/-6.0 A, $R_{DS(ON)}=25m\Omega@V_{GS}=-2.5V$
- ◆ -20V/-5.0 A, $R_{DS(ON)}=35m\Omega@V_{GS}=-1.8V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ TSSOP-8P package design

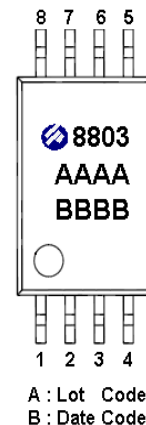
APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

PIN CONFIGURATION(TSSOP – 8P)



PART MARKING





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PIN DESCRIPTION

| Pin | Symbol | Description |
|-----|--------|-------------|
| 1 | D1 | Drain |
| 2 | S1 | Source |
| 3 | S1 | Source |
| 4 | G1 | Gate |
| 5 | G2 | Gate |
| 6 | S2 | Source |
| 7 | S2 | Source |
| 8 | D2 | Drain |

ORDERING INFORMATION

| Part Number | Package | Part Marking |
|---------------|-----------|--------------|
| SPP8803TS8RGB | TSSOP- 8P | 8803 |

※ SPP8803TS8RGB : 13" Tape Reel ; Pb – Free; Halogen -Free

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

| Parameter | Symbol | Typical | Unit |
|---|------------------|---------|------|
| Drain-Source Voltage | V _{DSS} | -20 | V |
| Gate –Source Voltage | V _{GSS} | ±12 | V |
| Continuous Drain Current(T _J =150°C) | I _D | TA=25°C | -7.0 |
| | | TA=70°C | -5.8 |
| Pulsed Drain Current | I _{DM} | -30 | A |
| Continuous Source Current(Diode Conduction) | I _S | -2.3 | A |
| Power Dissipation | P _D | TA=25°C | 1.5 |
| | | TA=70°C | 0.9 |
| Operating Junction Temperature | T _J | -55/150 | °C |
| Storage Temperature Range | T _{STG} | -55/150 | °C |
| Thermal Resistance-Junction to Ambient | R _{θJA} | 80 | °C/W |



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ELECTRICAL CHARACTERISTICS

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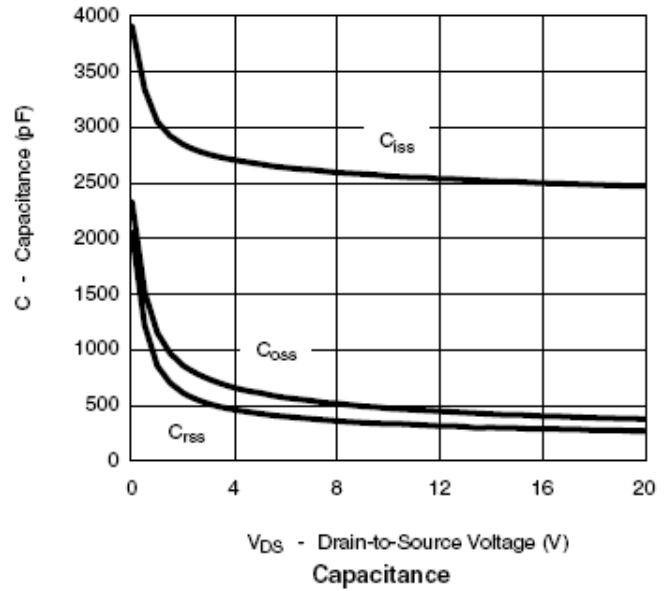
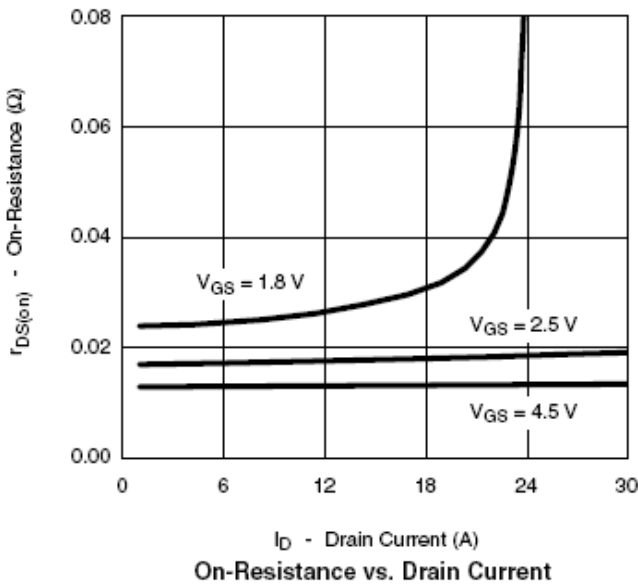
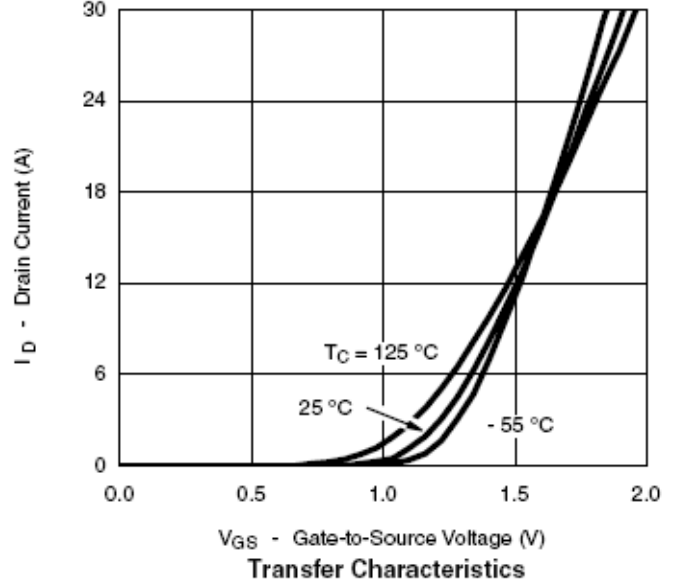
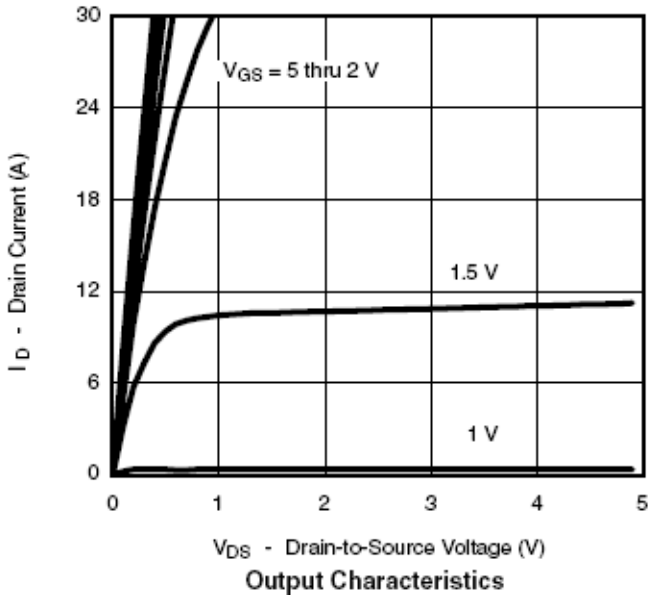
| Parameter | Symbol | Conditions | Min. | Typ | Max. | Unit |
|---------------------------------|----------------------|--|-------|-------|-------|------|
| Static | | | | | | |
| Drain-Source Breakdown Voltage | V _{(BR)DSS} | V _{GS} =0V, I _D =-250uA | -20 | | | V |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} , I _D =-250uA | -0.35 | | -0.9 | |
| Gate Leakage Current | I _{GSS} | V _{DS} =0V, V _{GS} =±12V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =-16V, V _{GS} =0V | | | -1 | uA |
| | | V _{DS} =-20V, V _{GS} =0V T _J =55°C | | | -10 | |
| On-State Drain Current | I _{D(on)} | V _{DS} ≤ -5V, V _{GS} =-4.5V | -20 | | | A |
| Drain-Source On-Resistance | R _{DS(on)} | V _{GS} =-4.5V, I _D =-7.0A | | 0.016 | 0.020 | Ω |
| | | V _{GS} =-2.5V, I _D =-6.0A | | 0.020 | 0.025 | |
| | | V _{GS} =-1.8V, I _D =-5.0A | | 0.028 | 0.035 | |
| Forward Transconductance | g _{fs} | V _{DS} =-5.0V, I _D =-10.0A | | 36 | | S |
| Diode Forward Voltage | V _{SD} | I _S =-2.5A, V _{GS} =0V | | -0.8 | -1.2 | V |
| Dynamic | | | | | | |
| Total Gate Charge | Q _g | V _{DS} =-10V, V _{GS} =-5.0V I _D =-10.0A | | 30 | 45 | nC |
| Gate-Source Charge | Q _{gs} | | | 4.5 | | |
| Gate-Drain Charge | Q _{gd} | | | 8.0 | | |
| Input Capacitance | C _{iss} | V _{DS} =-10V, V _{GS} =0V f=1MHz | | 2670 | | pF |
| Output Capacitance | C _{oss} | | | 520 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 480 | | |
| Turn-On Time | t _{d(on)} | V _{DD} =-10V, R _L =15Ω I _D =-1.0A, V _{GEN} =-4.5V R _G =6Ω | | 25 | 40 | ns |
| | t _r | | | 45 | 70 | |
| Turn-Off Time | t _{d(off)} | | | 145 | 240 | |
| | t _f | | | 70 | 115 | |



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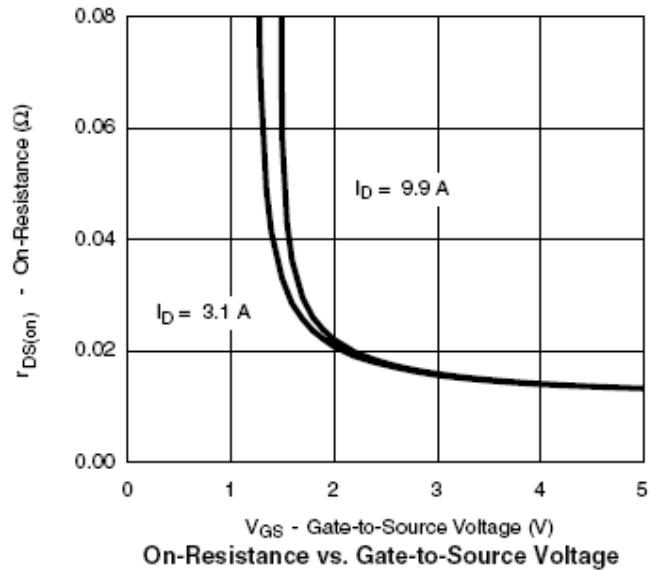
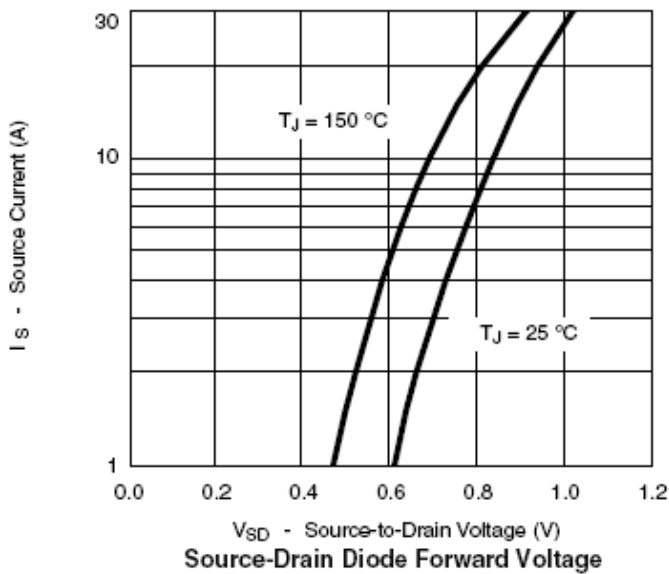
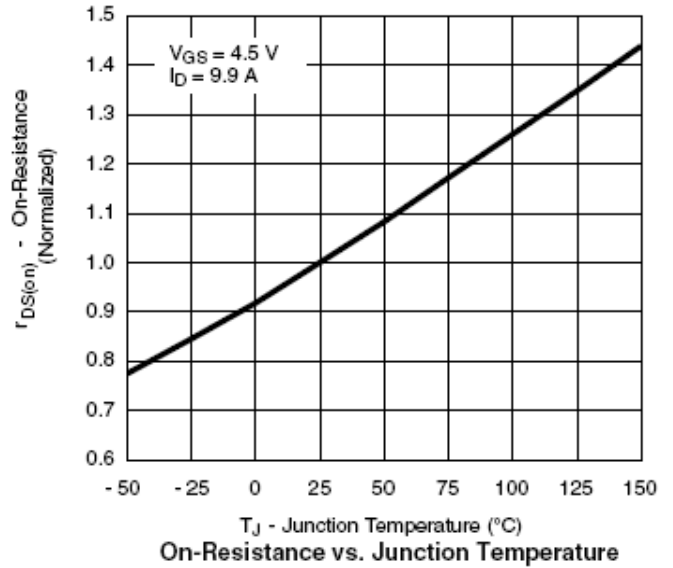
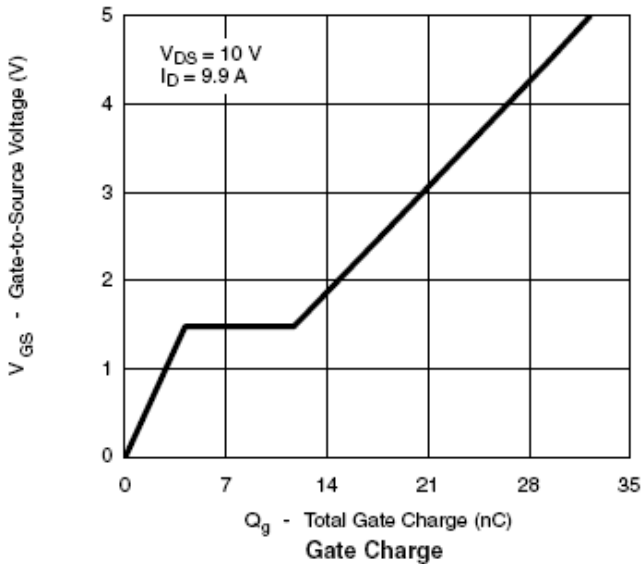
TYPICAL CHARACTERISTICS





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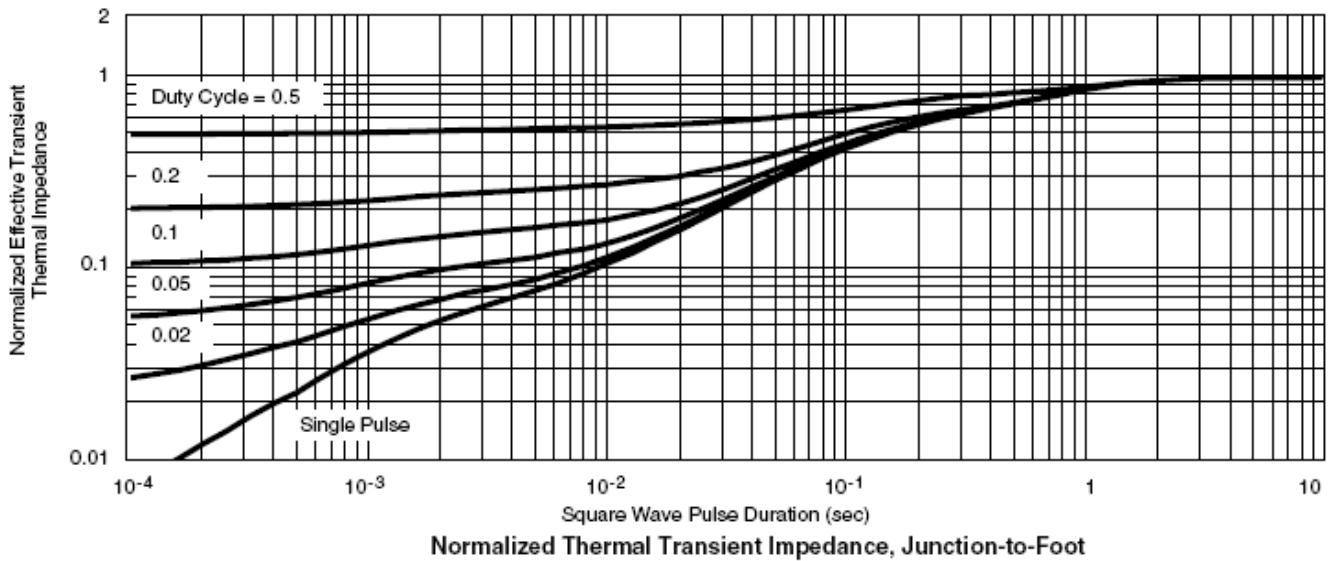
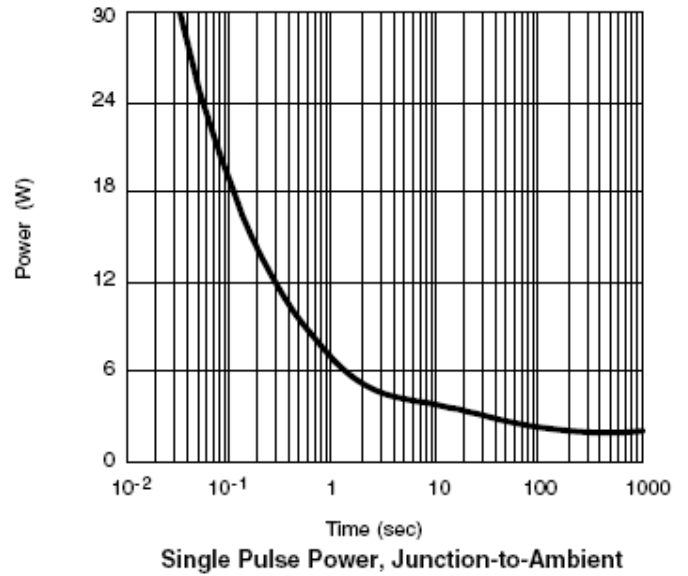
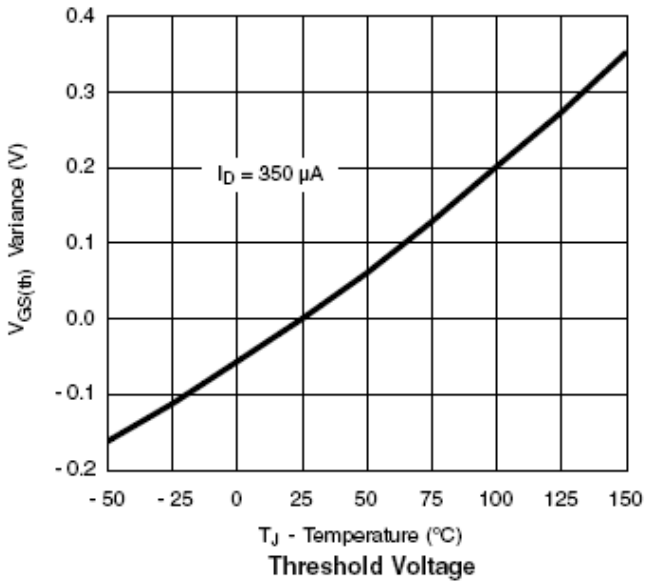
TYPICAL CHARACTERISTICS





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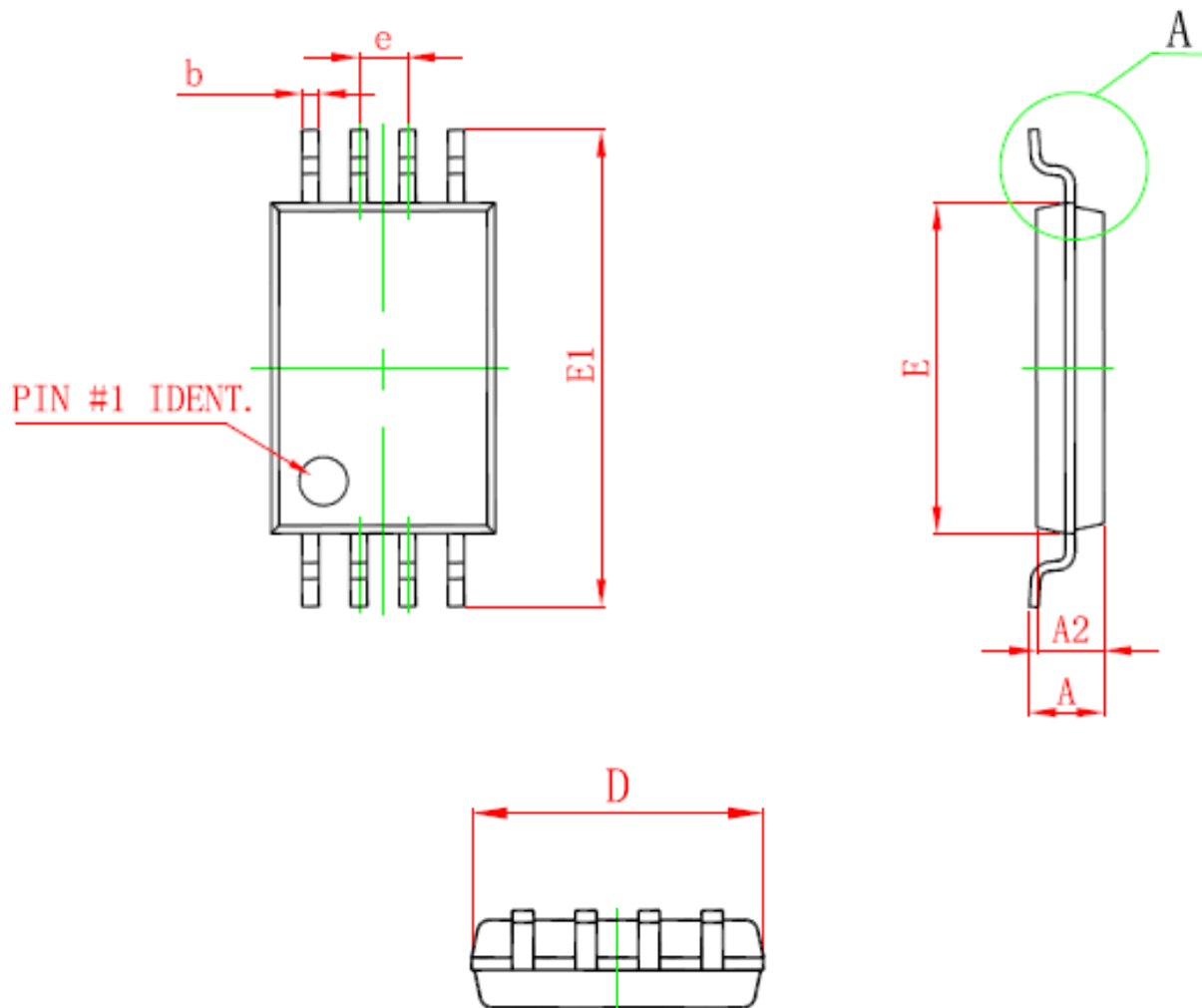
TYPICAL CHARACTERISTICS





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TSSOP- 8P PACKAGE OUTLINE



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| D | 2.900 | 3.100 | 0.114 | 0.122 |
| E | 4.300 | 4.500 | 0.169 | 0.177 |
| b | 0.190 | 0.300 | 0.007 | 0.012 |
| c | 0.090 | 0.200 | 0.004 | 0.008 |
| E1 | 6.250 | 6.550 | 0.246 | 0.258 |
| A | | 1.100 | | 0.043 |
| A2 | 0.800 | 1.000 | 0.031 | 0.039 |
| A1 | 0.020 | 0.150 | 0.001 | 0.006 |
| e | 0.65 (BSC) | | 0.026 (BSC) | |
| L | 0.500 | 0.700 | 0.020 | 0.028 |
| H | 0.25 (TYP) | | 0.01 (TYP) | |
| θ | 1° | 7° | 1° | 7° |



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