

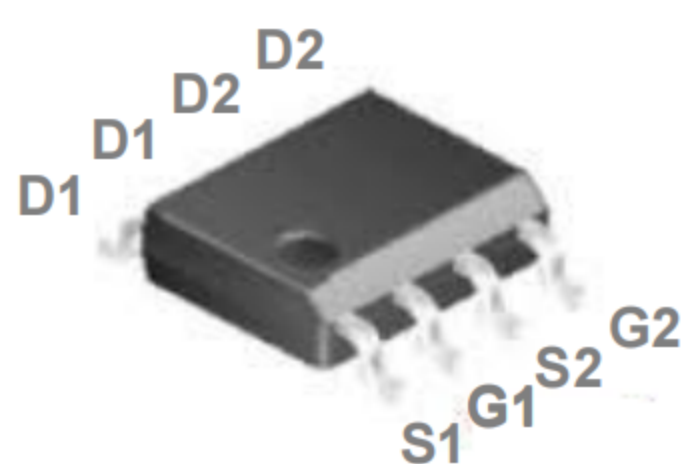
GENERAL FEATURES

| PARAMETER | VALUE | UNIT |
|--------------------|-----------------|------|
| V_{DS} | 20 | V |
| $R_{DS(on)}$ (max) | $V_{GS} = 4.5V$ | 30 |
| | $V_{GS} = 2.5V$ | 40 |
| Q_g | 4.86 | nC |

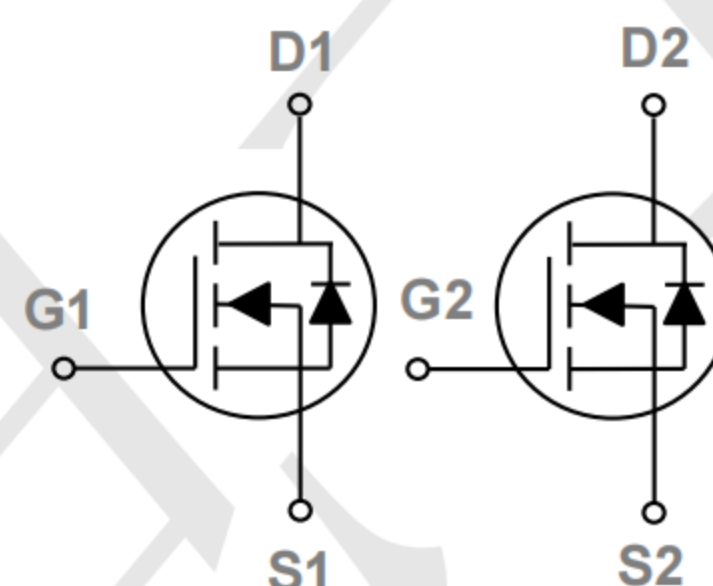
Application

- Battery protection
- Load switch

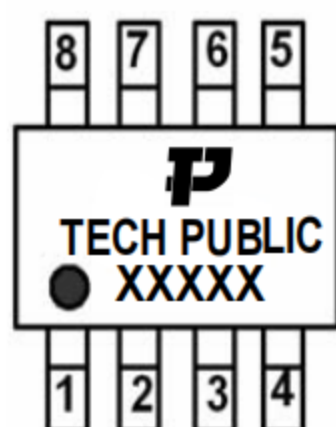
Package and Pin Configuration



Circuit diagram



Marking:



“P” is TECHPUBLIC LOGO

“XXXXX” Marking ID (Please see the last page for details)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNIT |
|--|----------------|--------------------|------------|
| Drain-Source Voltage | V_{DS} | 20 | V |
| Gate-Source Voltage | V_{GS} | ± 12 | V |
| Continuous Drain Current (Note 1) | I_D | 6 | A |
| Pulsed Drain Current (Note 2) | I_{DM} | 30 | A |
| Continuous Source Current (Diode Conduction) | I_S | 1.7 | A |
| Total Power Dissipation | P_{DTOT} | $T_A = 25^\circ C$ | 1.6 |
| | | $T_A = 75^\circ C$ | 1.1 |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | - 55 to +150 | $^\circ C$ |

THERMAL PERFORMANCE

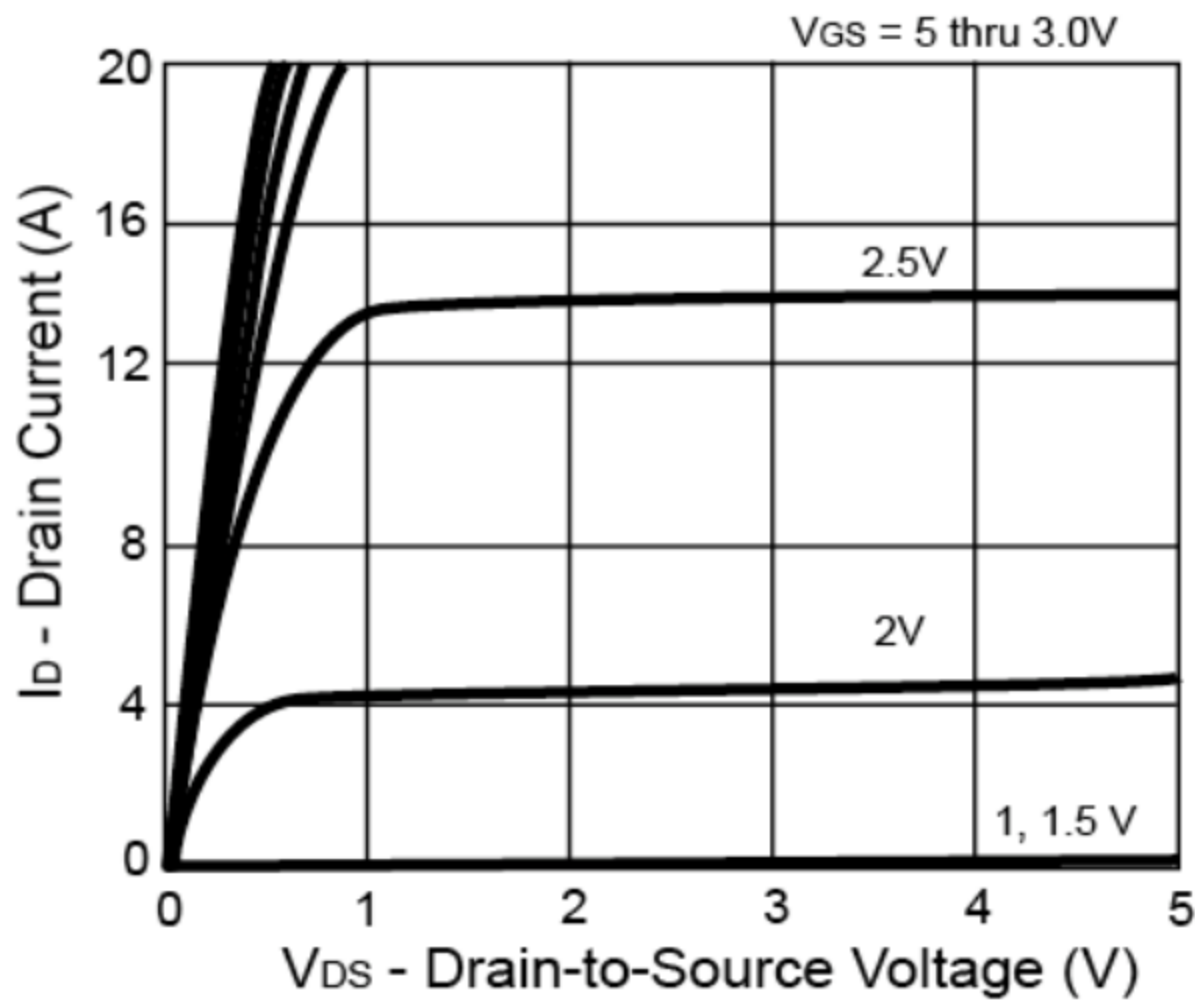
| PARAMETER | SYMBOL | LIMIT | UNIT |
|--|-----------------|-------|--------------|
| Junction to Case Thermal Resistance | $R_{\theta JC}$ | 40 | $^\circ C/W$ |
| Junction to Ambient Thermal Resistance | $R_{\theta JA}$ | 77 | $^\circ C/W$ |

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

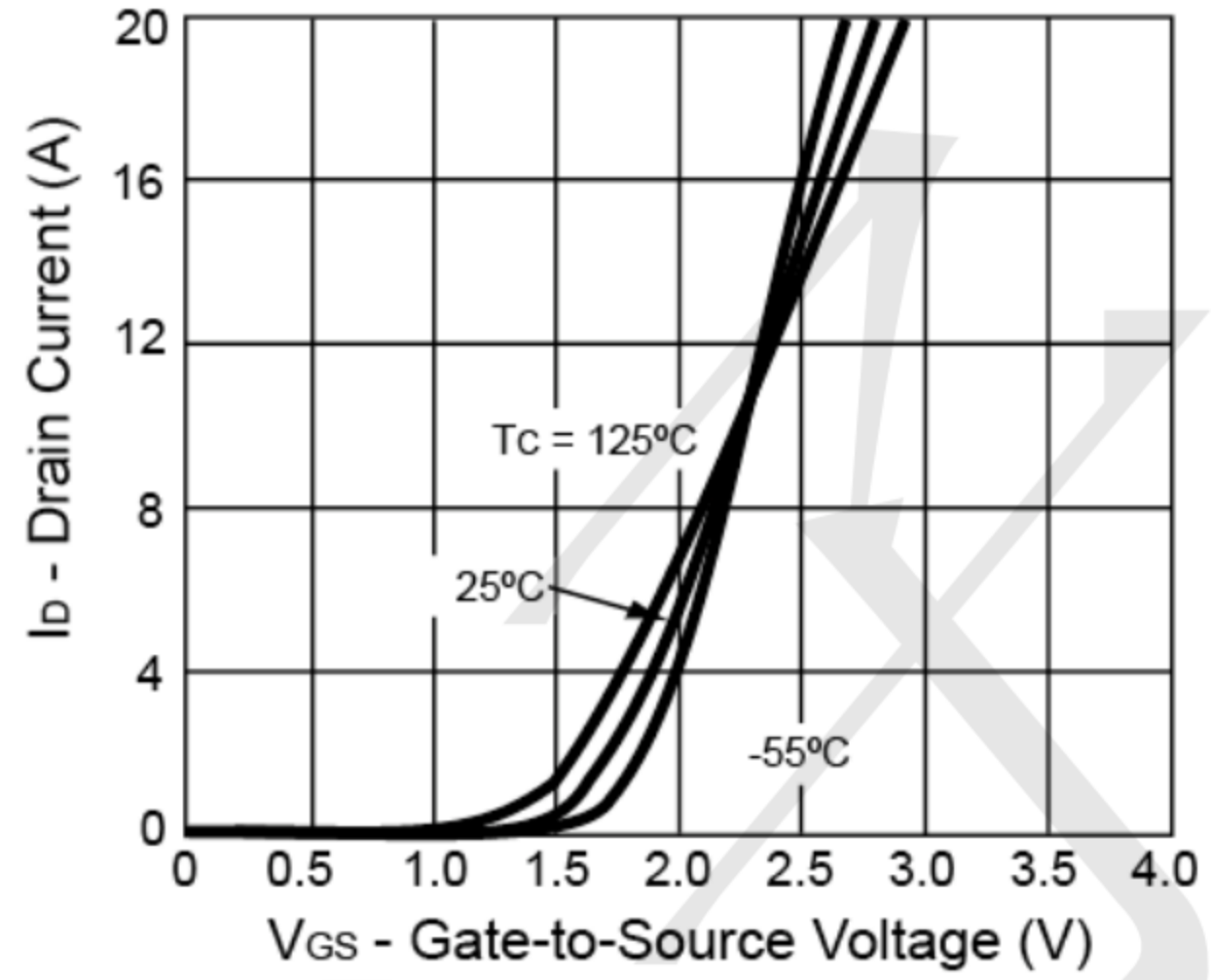
| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | |
|---|---|--------------|-----|-------|-----------|------------|
| PARAMETER | CONDITIONS | SYMBOL | MIN | TYP | MAX | UNIT |
| Static (Note 3) | | | | | | |
| Drain-Source Breakdown Voltage | $V_{GS} = 0V, I_D = 250\mu A$ | BV_{DSS} | 20 | -- | -- | V |
| Gate Threshold Voltage | $V_{DS} = V_{GS}, I_D = 250\mu A$ | $V_{GS(TH)}$ | 0.6 | -- | -- | V |
| Gate Body Leakage | $V_{GS} = \pm 12V, V_{DS} = 0V$ | I_{GSS} | -- | -- | ± 100 | nA |
| Zero Gate Voltage Drain Current | $V_{DS} = 20V, V_{GS} = 0V$ | I_{DSS} | -- | -- | 1 | μA |
| On-State Drain Current | $V_{DS} = 5V, V_{GS} = 4.5V$ | $I_{D(ON)}$ | 30 | -- | -- | A |
| Drain-Source On-State Resistance | $V_{GS} = 4.5V, I_D = 6.0A$ | $R_{DS(ON)}$ | -- | 21 | 30 | m Ω |
| | $V_{GS} = 2.5V, I_D = 5.2A$ | | -- | 30 | 40 | |
| Forward Transconductance | $V_{DS} = 10V, I_D = 6A$ | g_{fs} | -- | 30 | -- | S |
| Dynamic (Note 4) | | | | | | |
| Total Gate Charge | $V_{DS} = 10V, I_D = 6A,$ $V_{GS} = 4.5V$ | Q_g | -- | 4.86 | -- | nC |
| Gate-Source Charge | | Q_{gs} | -- | 0.92 | -- | |
| Gate-Drain Charge | | Q_{gd} | -- | 1.4 | -- | |
| Input Capacitance | $V_{DS} = 8V, V_{GS} = 0V,$ $F = 1.0\text{MHz}$ | C_{iss} | -- | 562 | -- | pF |
| Output Capacitance | | C_{oss} | -- | 106 | -- | |
| Reverse Transfer Capacitance | | C_{rss} | -- | 75 | -- | |
| Switching (Note 5) | | | | | | |
| Turn-On Delay Time | $V_{DD} = 10V,$ $R_{GEN} = 6\Omega,$ $I_D = 1A, V_{GS} = 4.5V,$ | $t_{d(on)}$ | -- | 8.1 | -- | ns |
| Turn-On Rise Time | | t_r | -- | 9.95 | -- | |
| Turn-Off Delay Time | | $t_{d(off)}$ | -- | 21.85 | -- | |
| Turn-Off Fall Time | | t_f | -- | 5.35 | -- | |
| Source-Drain Diode (Note 3) | | | | | | |
| Forward Voltage | $I_S = 1.7A, V_{GS} = 0V$ | V_{SD} | -- | 0.7 | 1.2 | V |

Typical Electrical and Thermal Characteristics

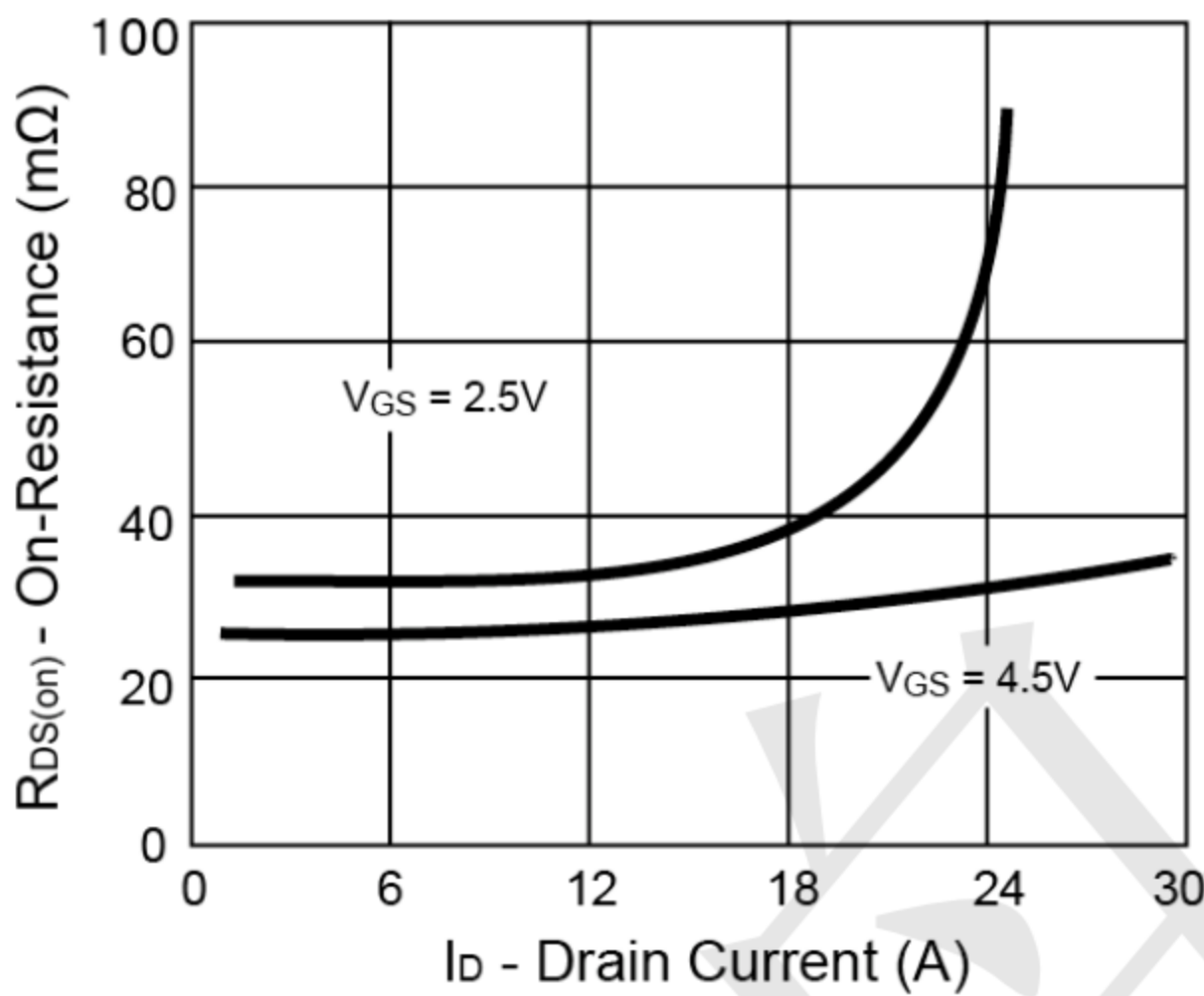
Output Characteristics



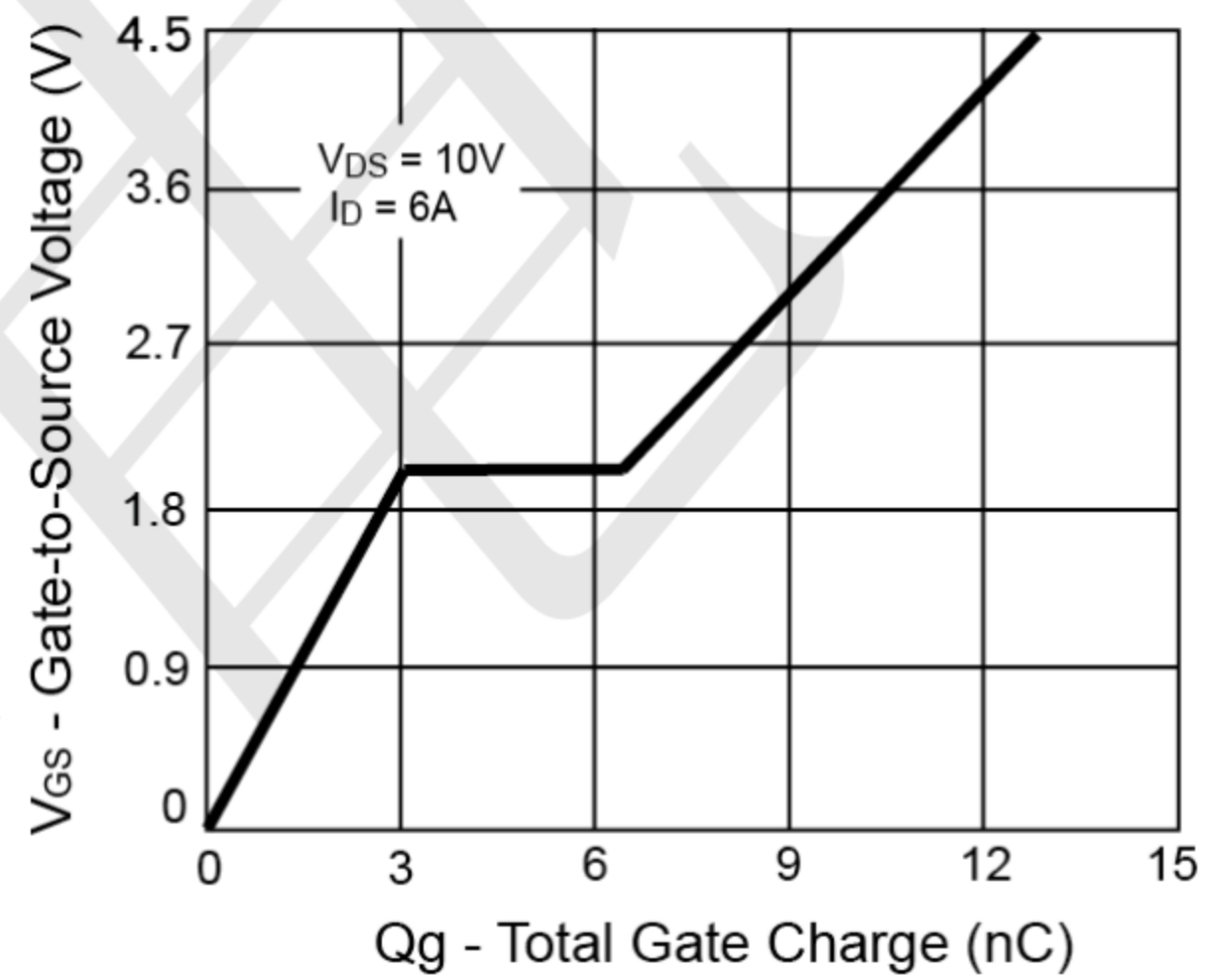
Transfer Characteristics



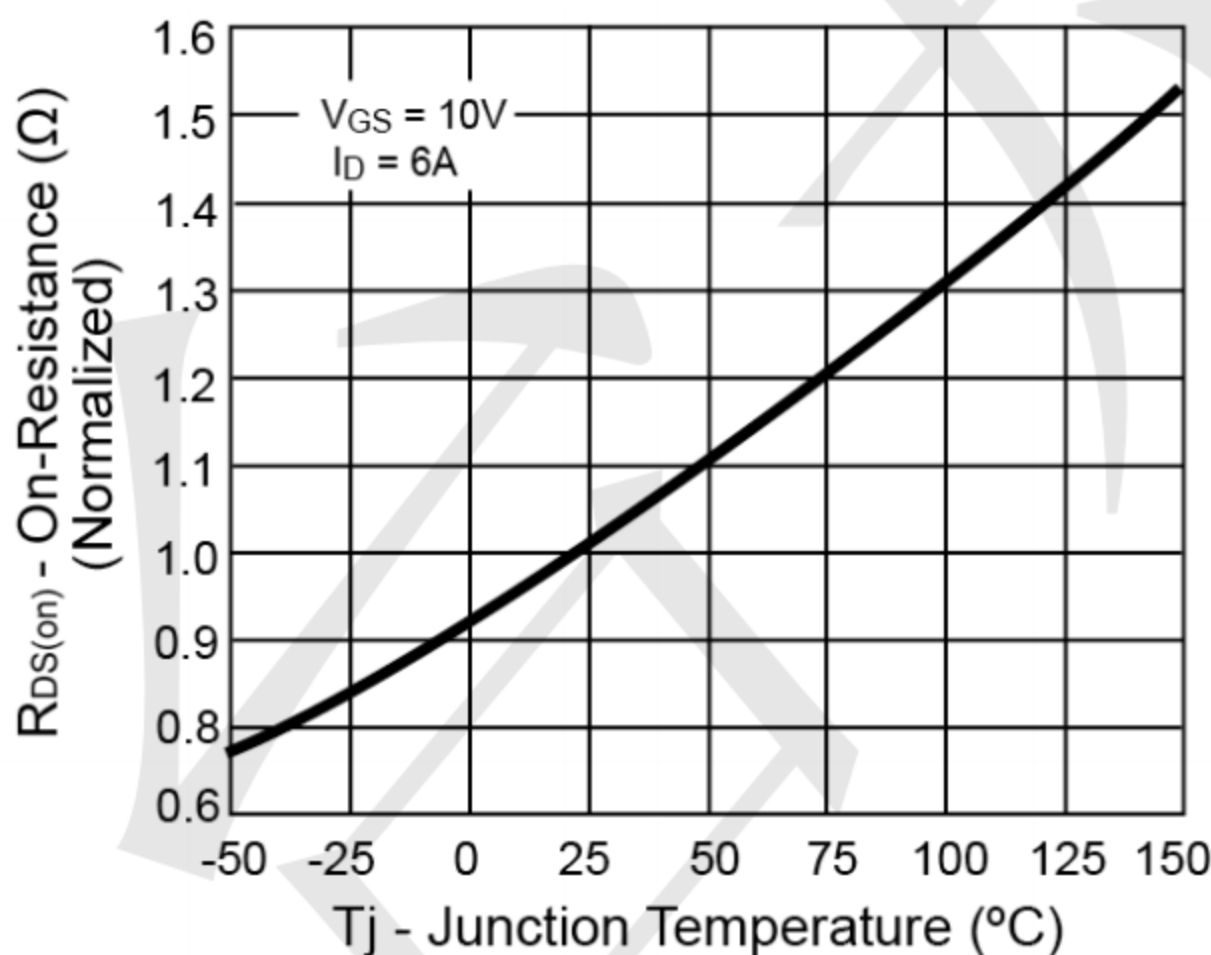
On-Resistance vs. Drain Current



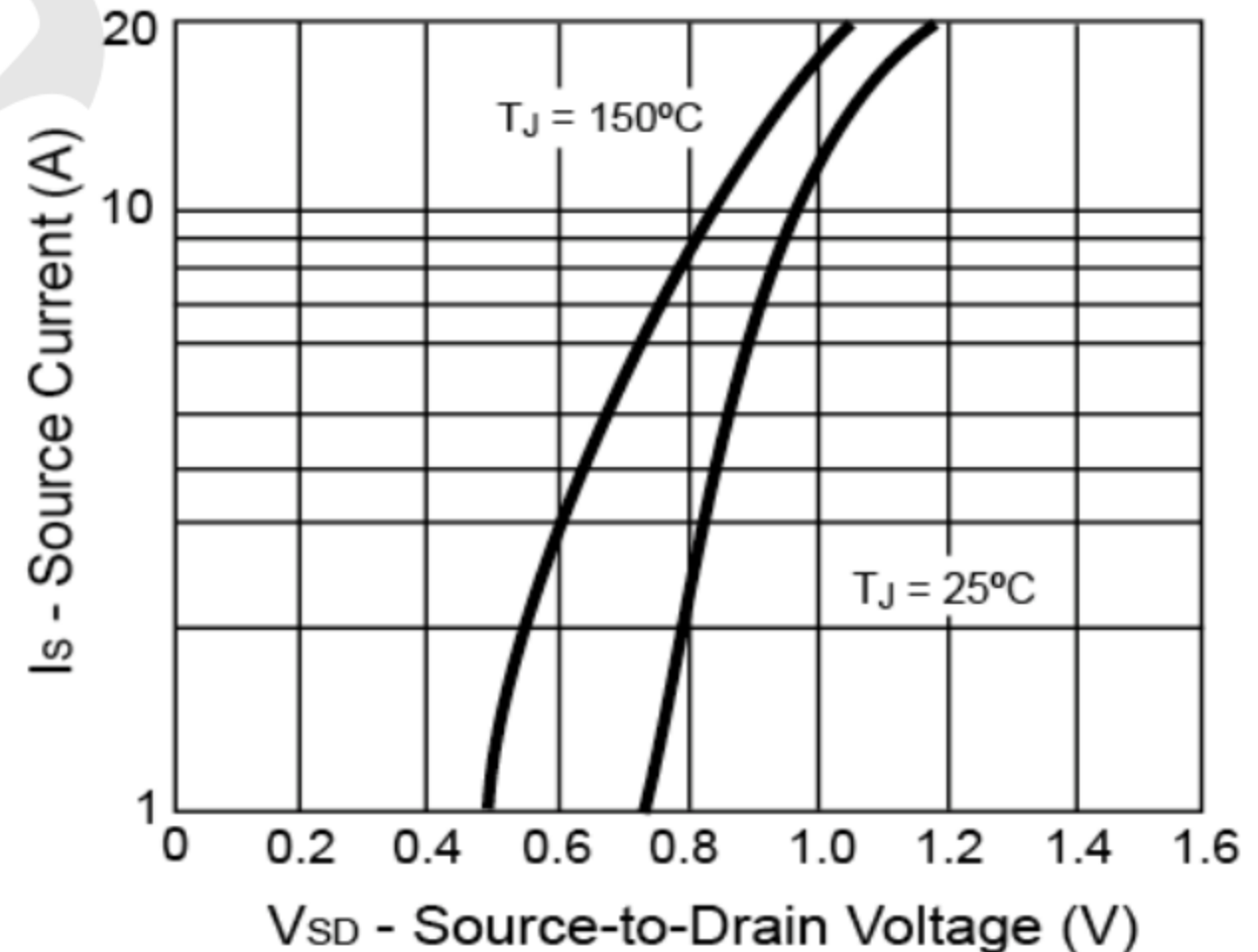
Gate Charge



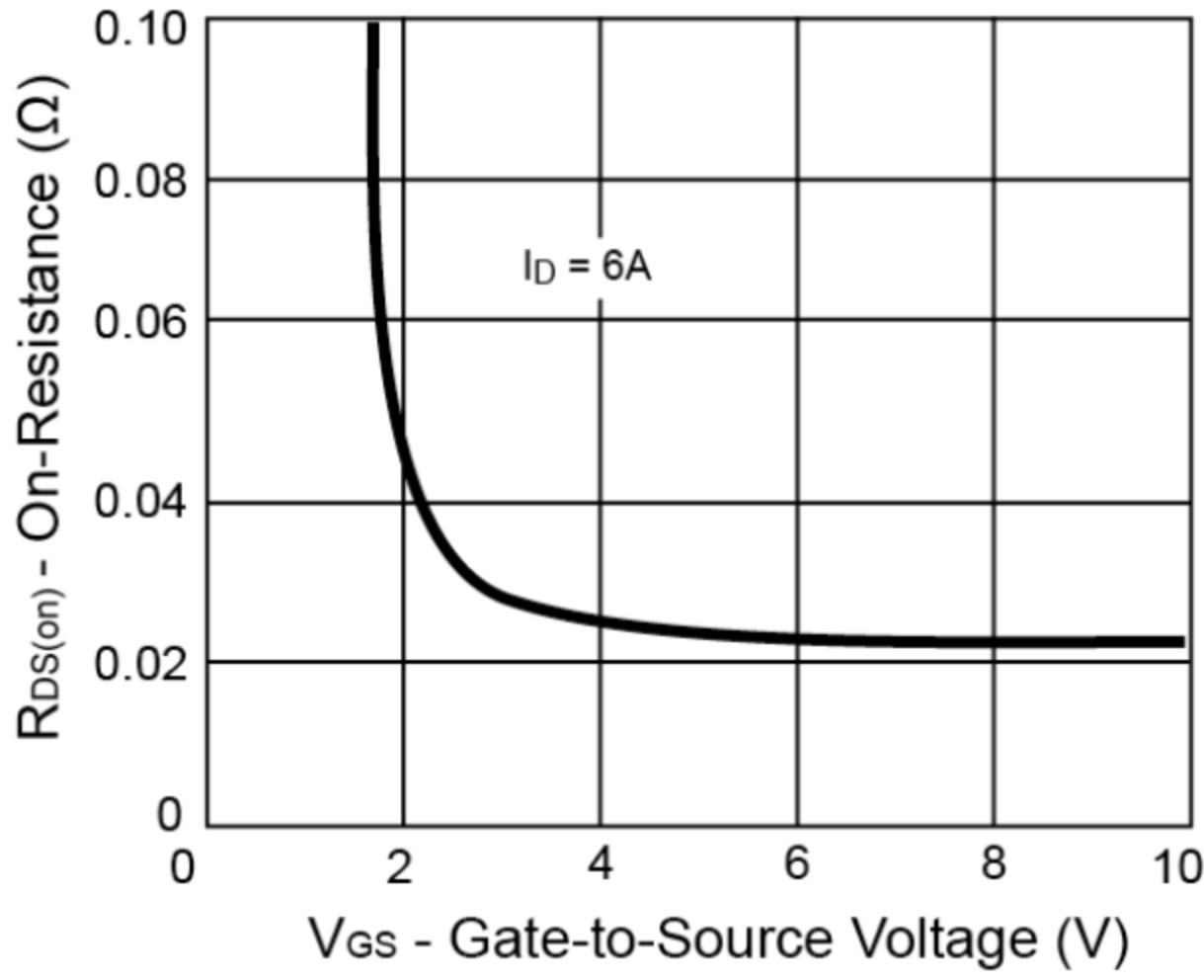
On-Resistance vs. Junction Temperature



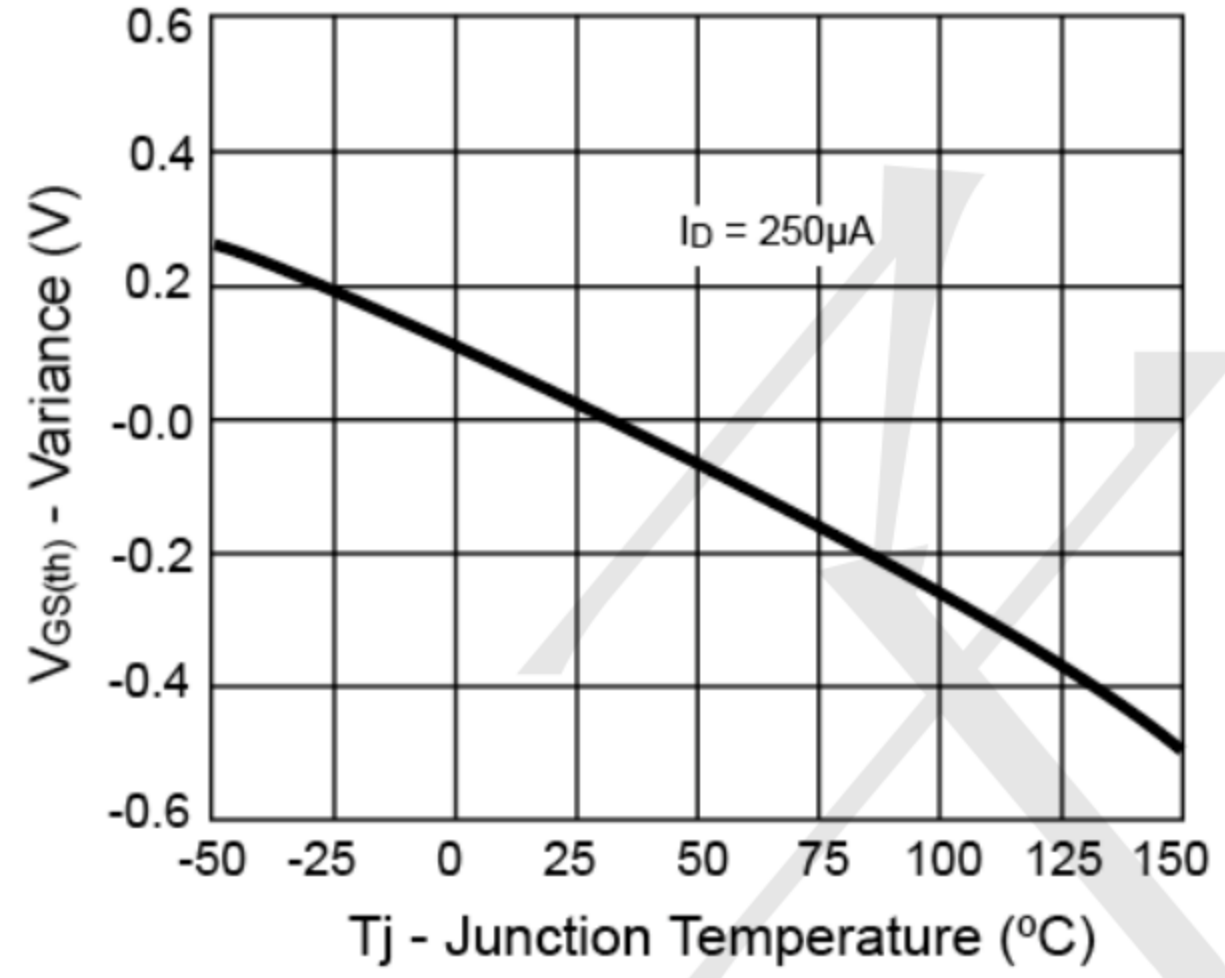
Source-Drain Diode Forward Voltage



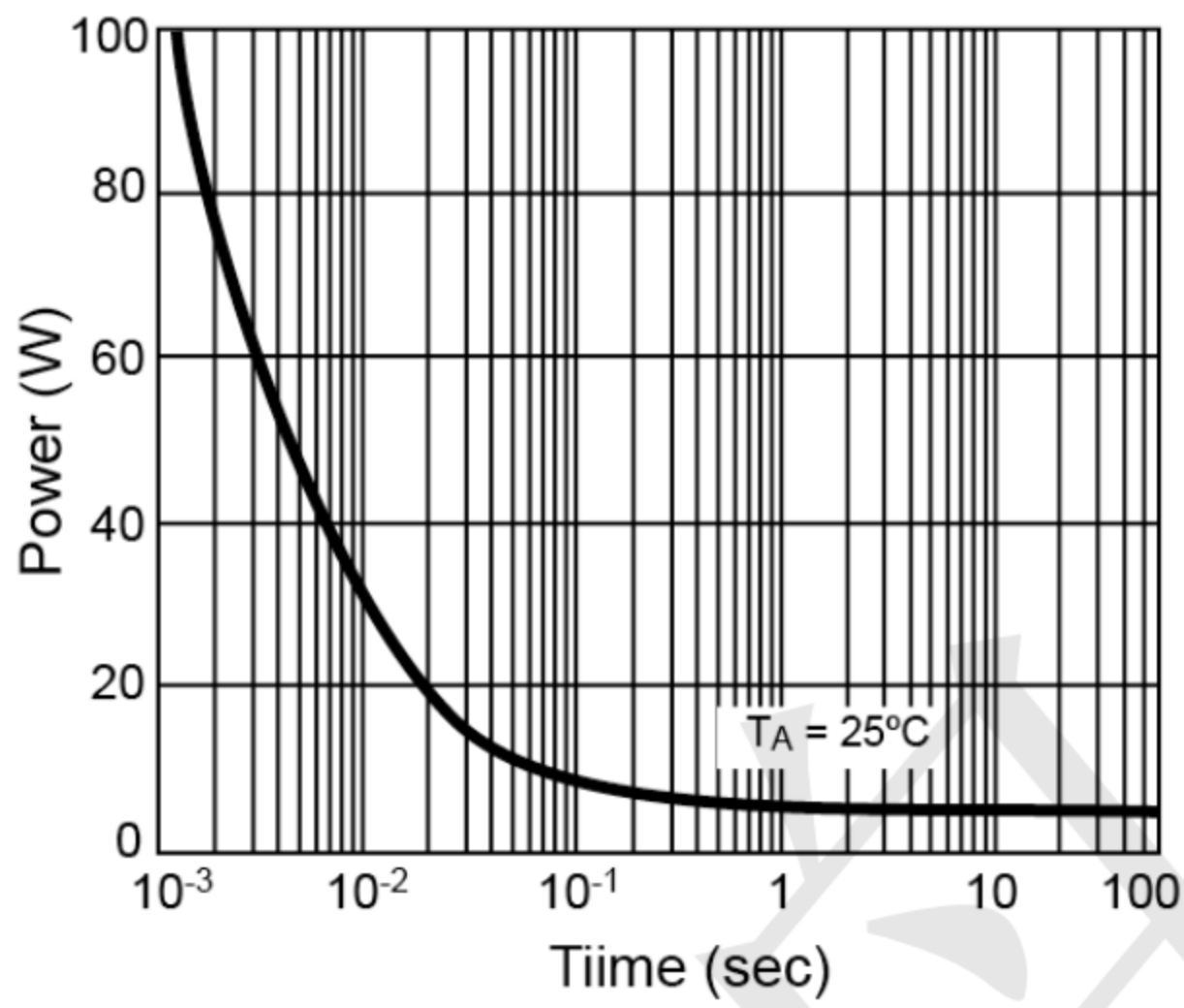
On-Resistance vs. Gate-Source Voltage



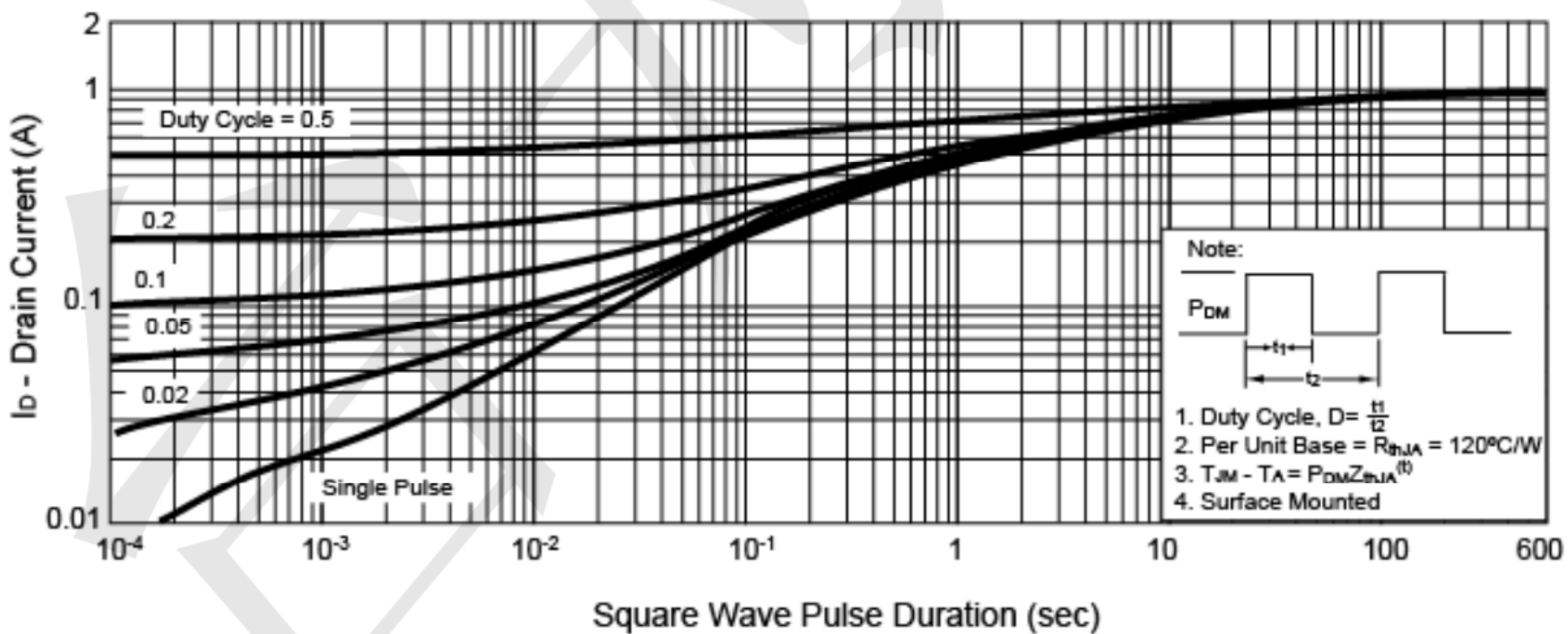
Threshold Voltage



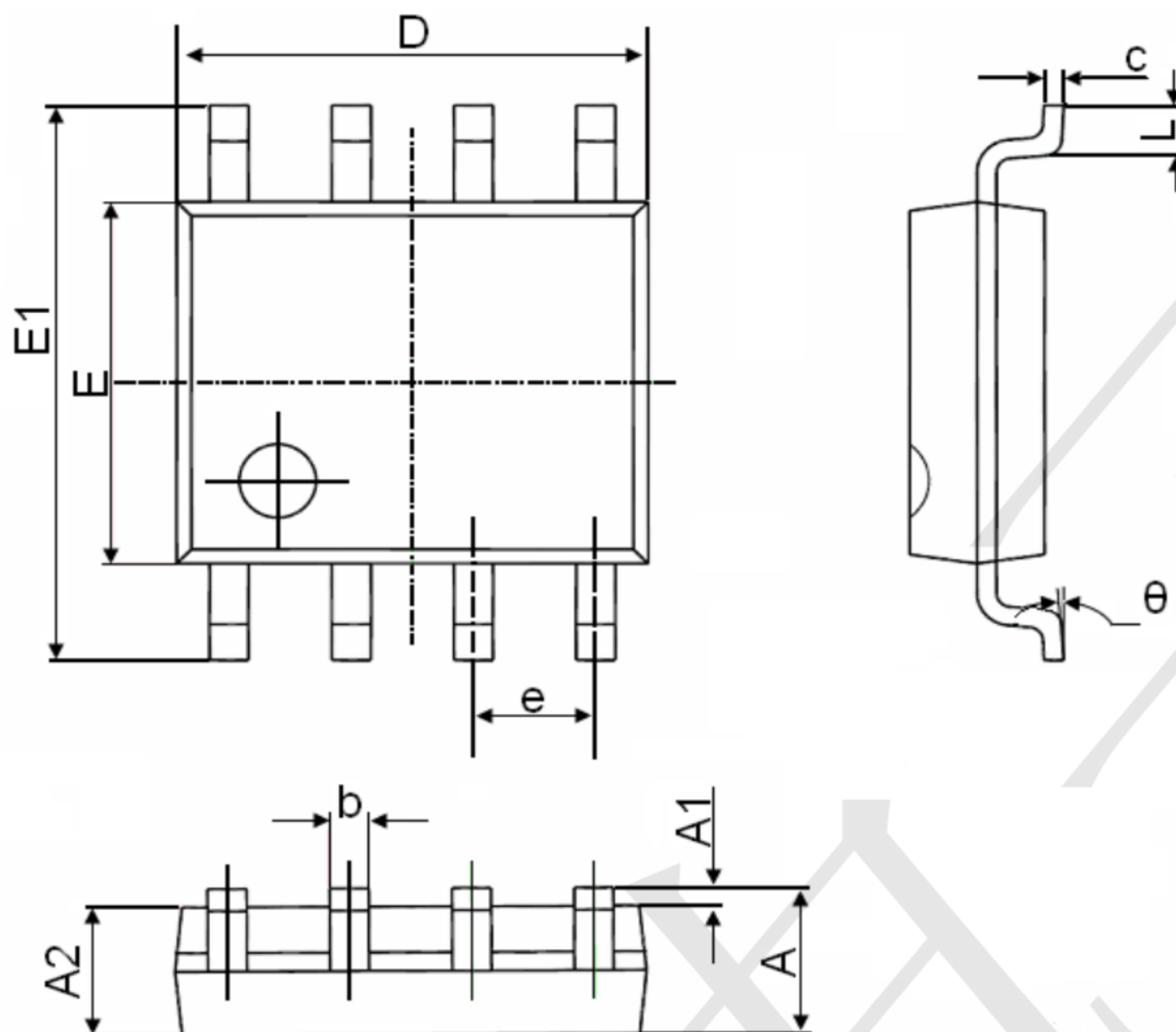
Single Pulse Power



Normalized Thermal Transient Impedance, Junction-to-Ambient

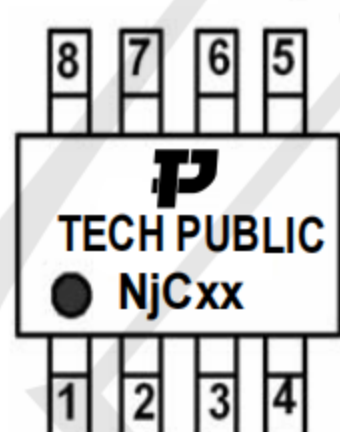


SOP-8 Package Information



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.350 | 1.750 | 0.053 | 0.069 |
| A1 | 0.100 | 0.250 | 0.004 | 0.010 |
| A2 | 1.350 | 1.550 | 0.053 | 0.061 |
| b | 0.330 | 0.510 | 0.013 | 0.020 |
| c | 0.170 | 0.250 | 0.006 | 0.010 |
| D | 4.700 | 5.100 | 0.185 | 0.200 |
| E | 3.800 | 4.000 | 0.150 | 0.157 |
| E1 | 5.800 | 6.200 | 0.228 | 0.244 |
| e | 1.270(BSC) | | 0.050(BSC) | |
| L | 0.400 | 1.270 | 0.016 | 0.050 |
| θ | 0° | 8° | 0° | 8° |

Marking:



“P” is TECHPUBLIC LOGO
 “NYT” is Part number, fixed
 “xx” is internal code

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [TECH PUBLIC](#) manufacturer:

Other Similar products are found below :

[MCH3443-TL-E](#) [MCH6422-TL-E](#) [FDPF9N50NZ](#) [NTNS3A92PZT5G](#) [IRFD120](#) [JANTX2N5237](#) [2N7000](#) [2SK2464-TL-E](#) [AOD464](#) [2SJ277-DL-E](#) [2SK2267\(Q\)](#) [2SK2545\(Q,T\)](#) [405094E](#) [423220D](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [SSM6J414TU,LF\(T](#) [751625C](#) [IRS2092STRPBF-EL](#) [IPS70R2K0CEAKMA1](#) [BSF024N03LT3 G](#) [PSMN4R2-30MLD](#) [TK31J60W5,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#) [NTE2384](#) [NTE2969](#) [NTE6400A](#) [DMC2700UDMQ-7](#) [DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [SSM6P54TU,LF](#) [DMP22D4UFO-7B](#) [IPS60R3K4CEAKMA1](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [IRF40H233XTMA1](#) [IPSA70R950CEAKMA1](#) [IPSA70R2K0CEAKMA1](#) [STU5N65M6](#) [C3M0021120D](#) [DMN6022SSD-13](#)