

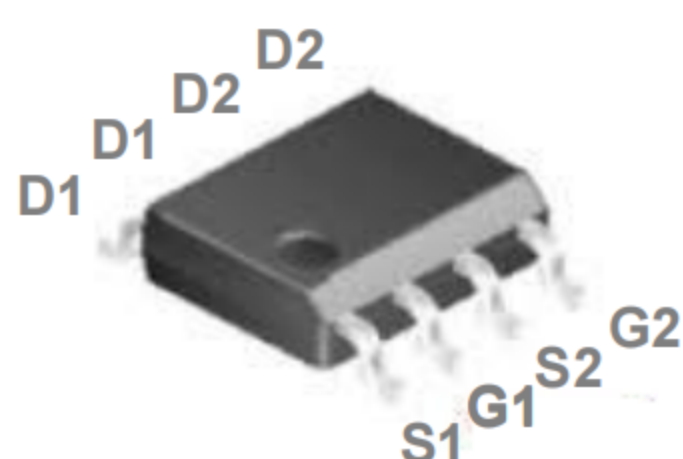
GENERAL FEATURES

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

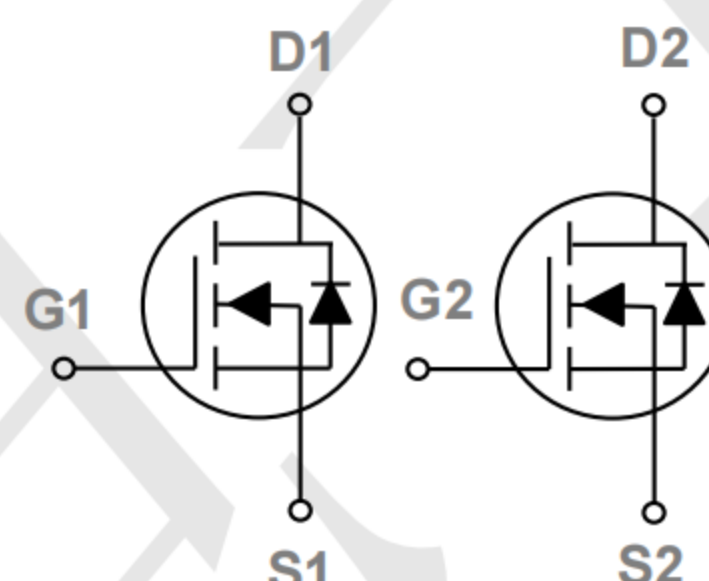
Application

- Battery protection
- Load switch

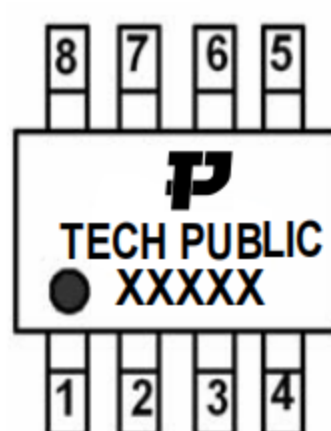
Package and Pin Configuration



Circuit diagram



Marking:



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“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

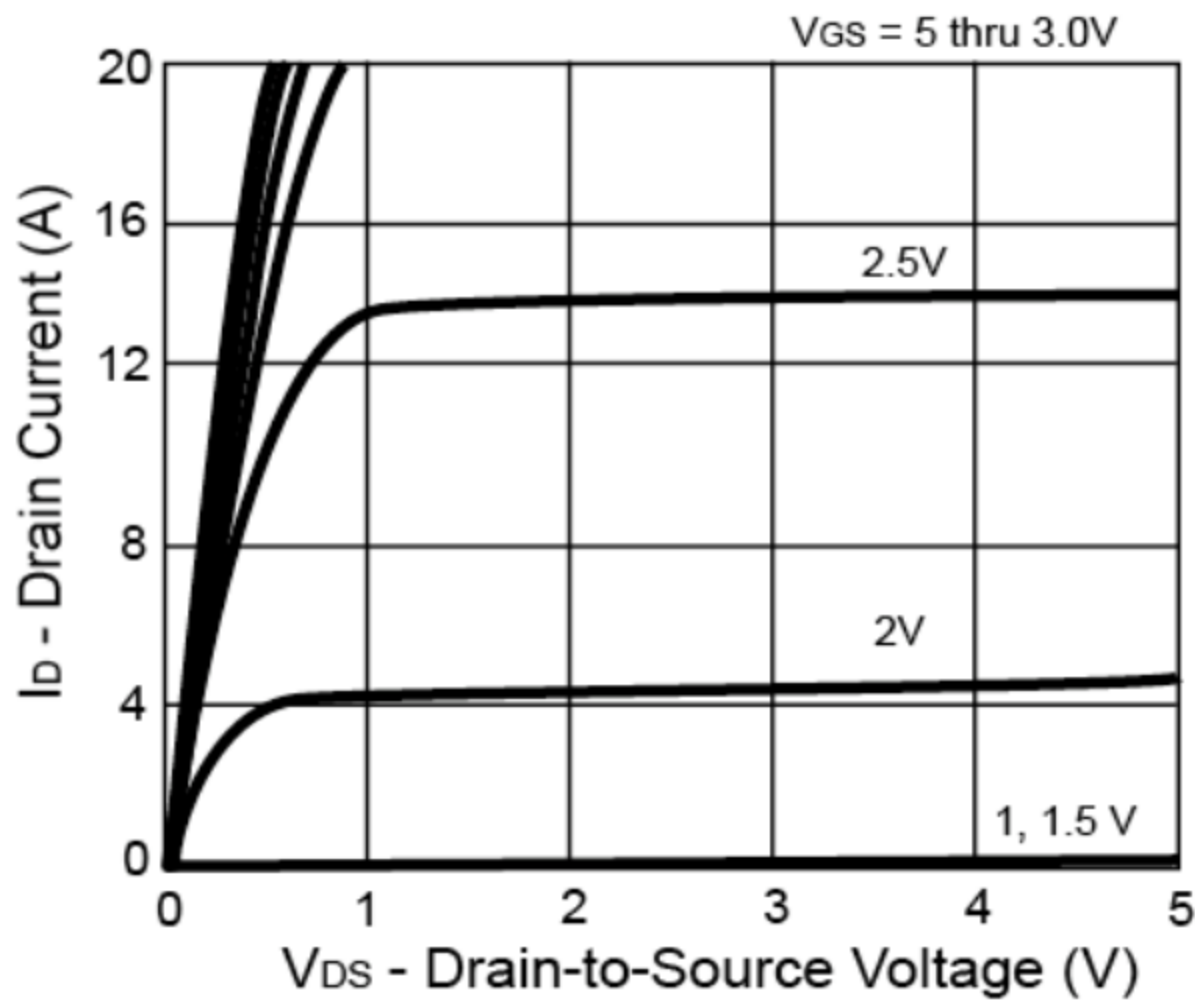
PARAMETER	SYMBOL	LIMIT	UNIT
Junction to Case Thermal Resistance	$R_{\theta JC}$	40	$^\circ C/W$
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	77	$^\circ C/W$

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

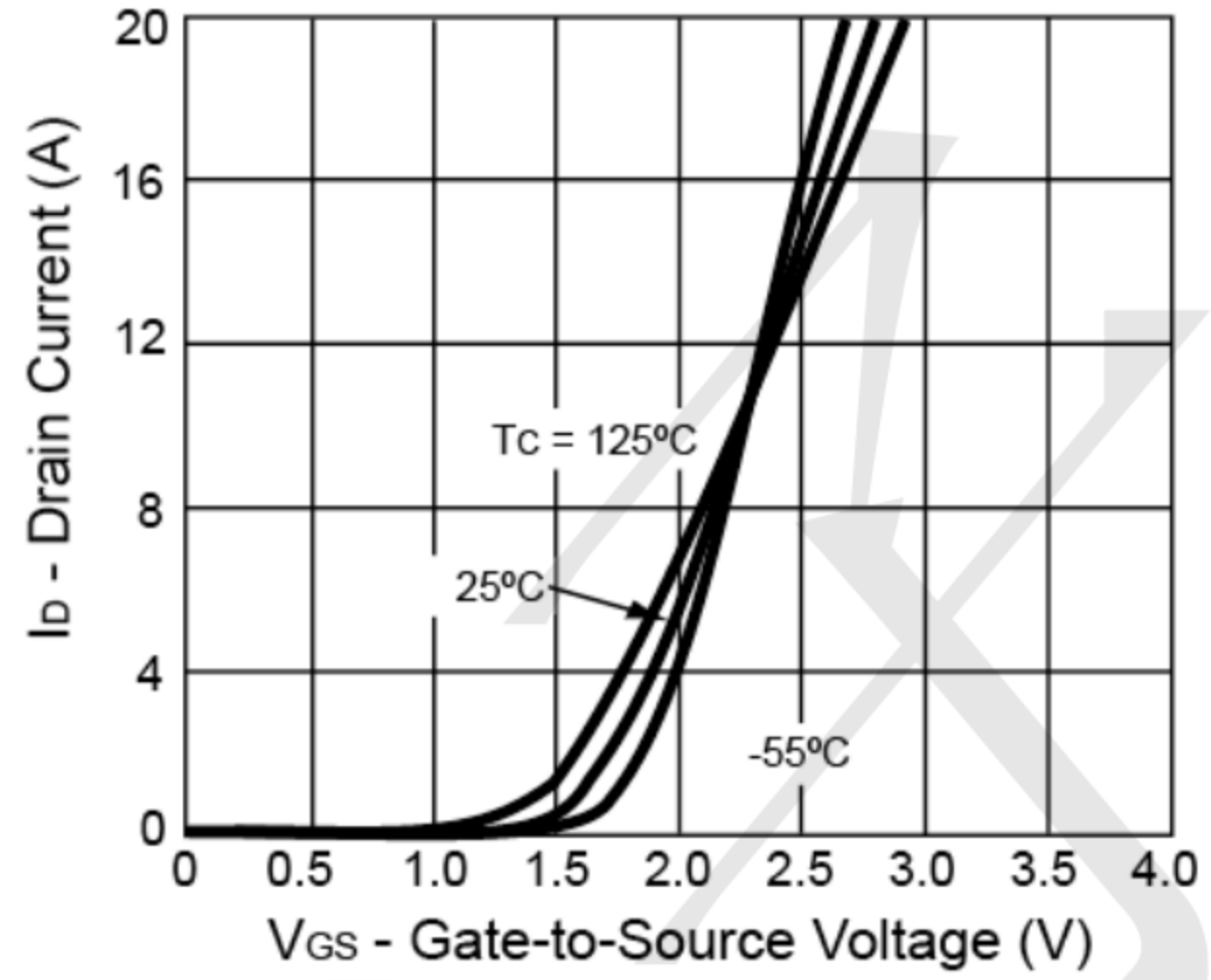
ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static (Note 3)						
Drain-Source Breakdown Voltage	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	BV_{DSS}	20	--	--	V
Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$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

Typical Electrical and Thermal Characteristics

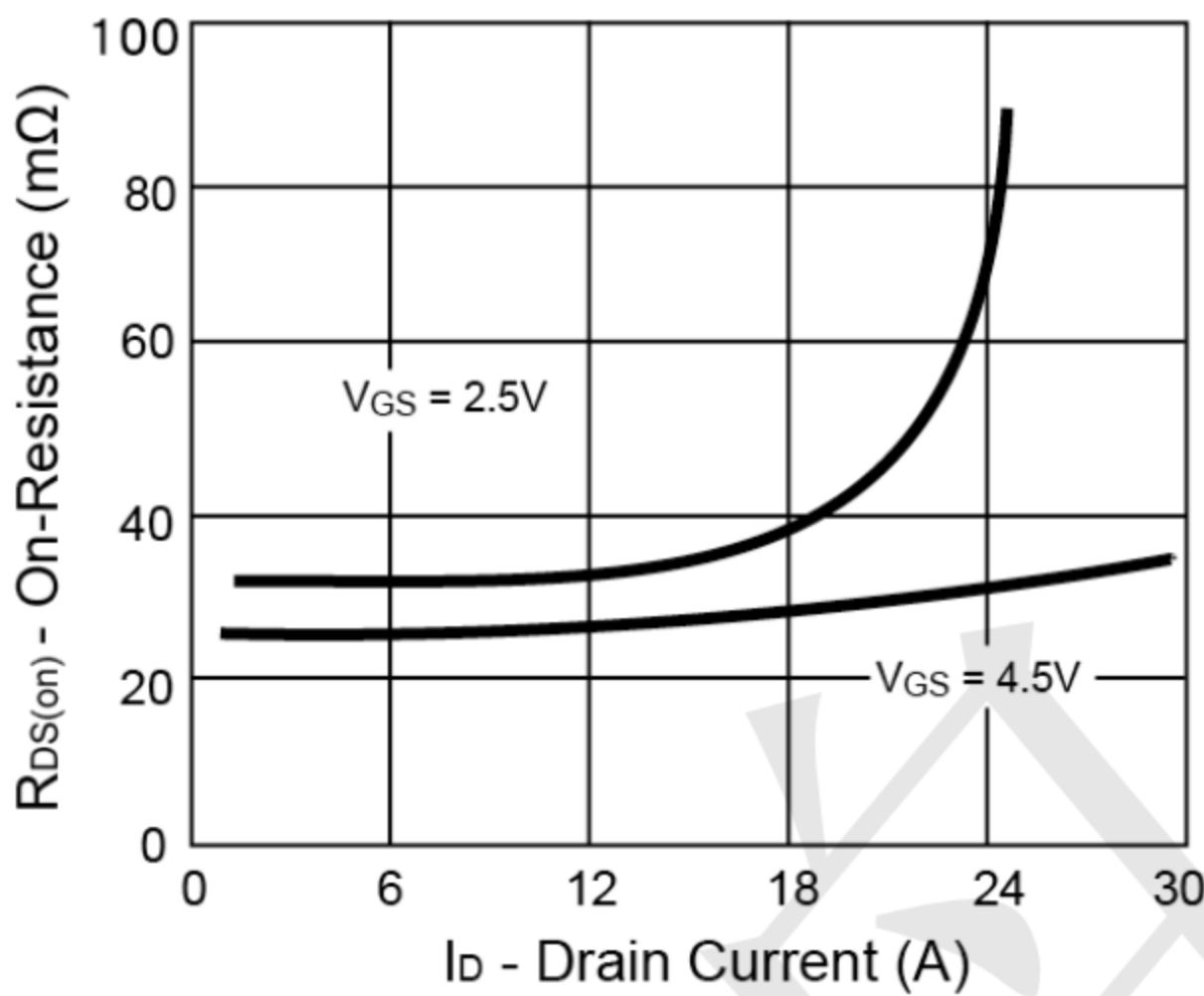
Output Characteristics



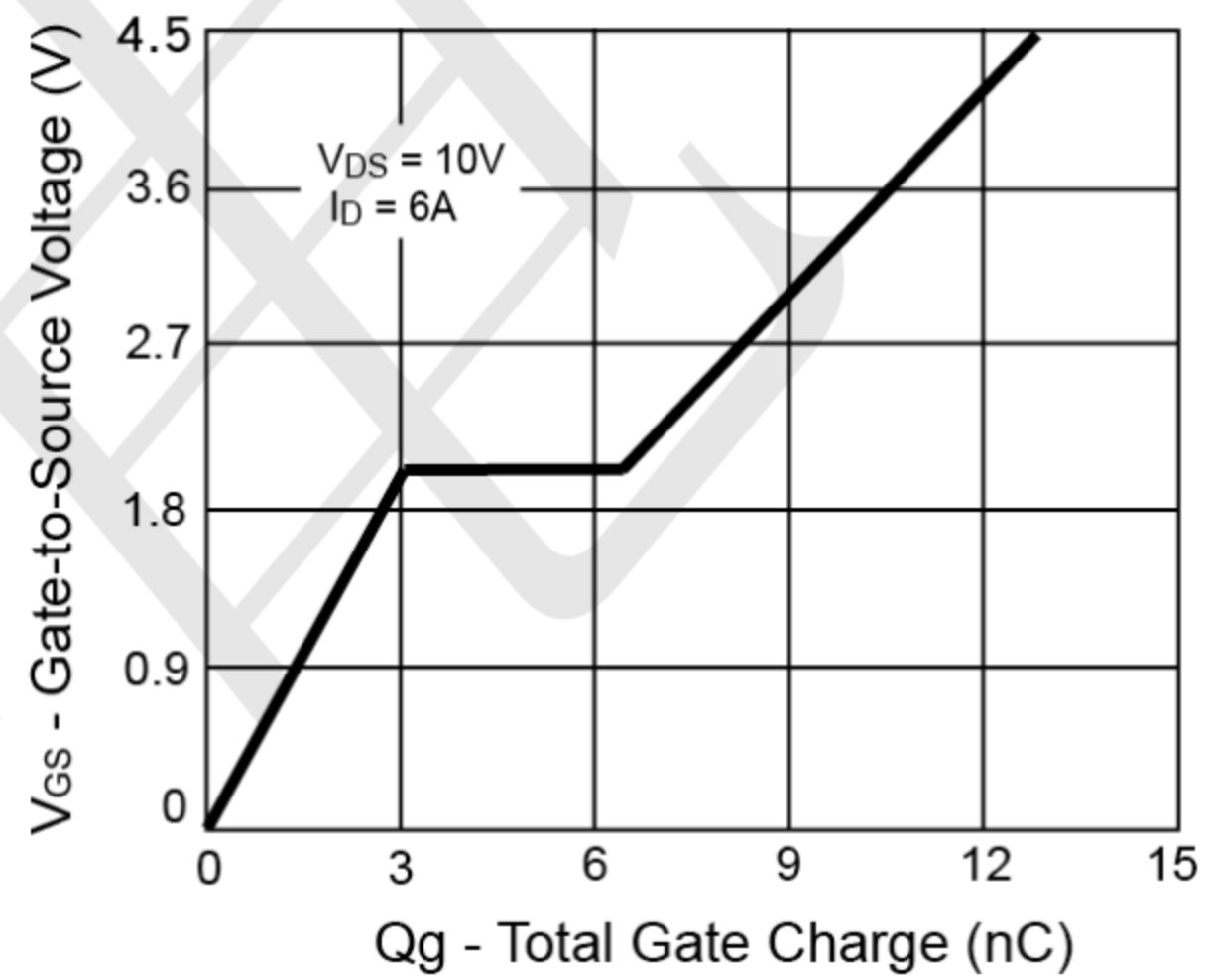
Transfer Characteristics



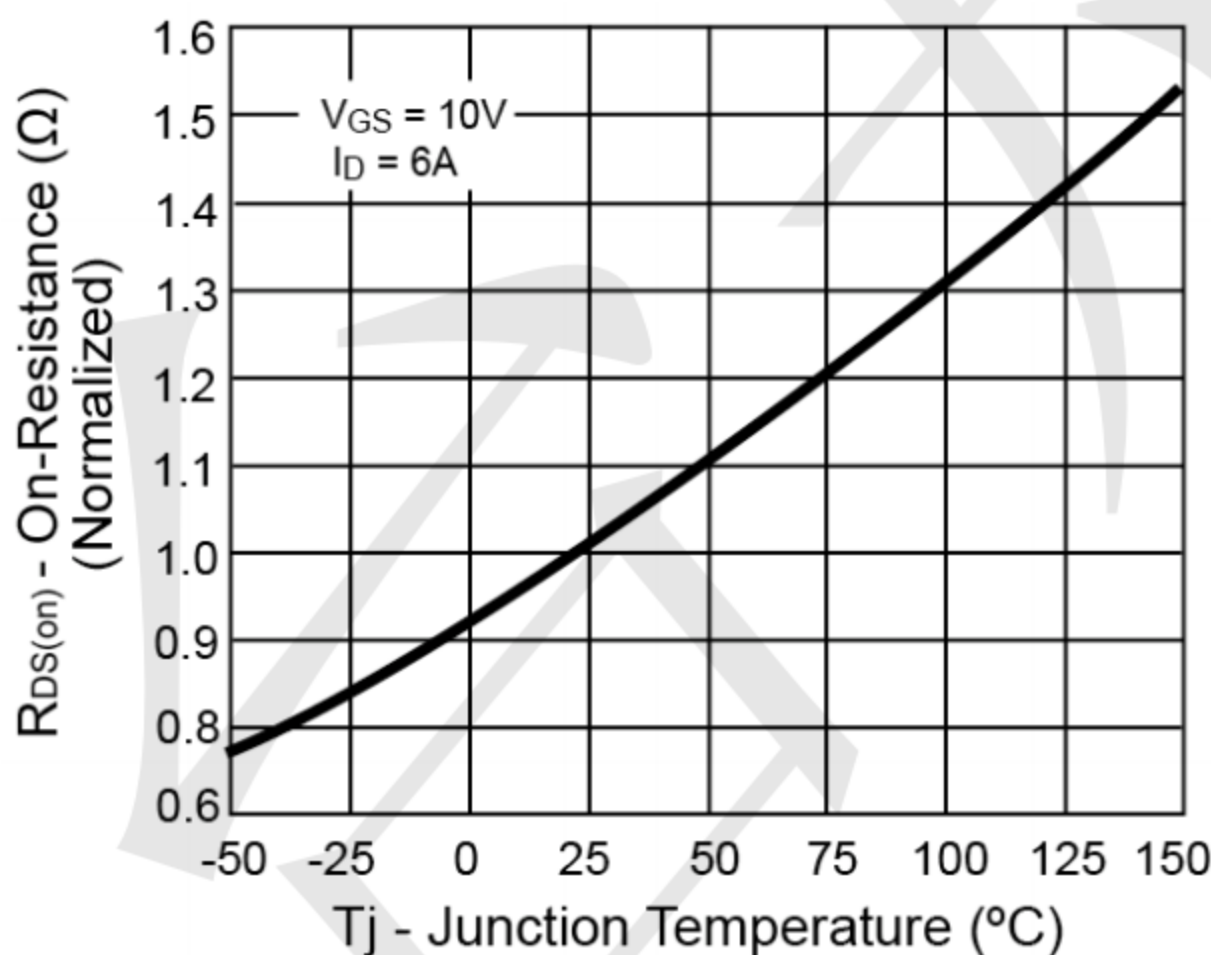
On-Resistance vs. Drain Current



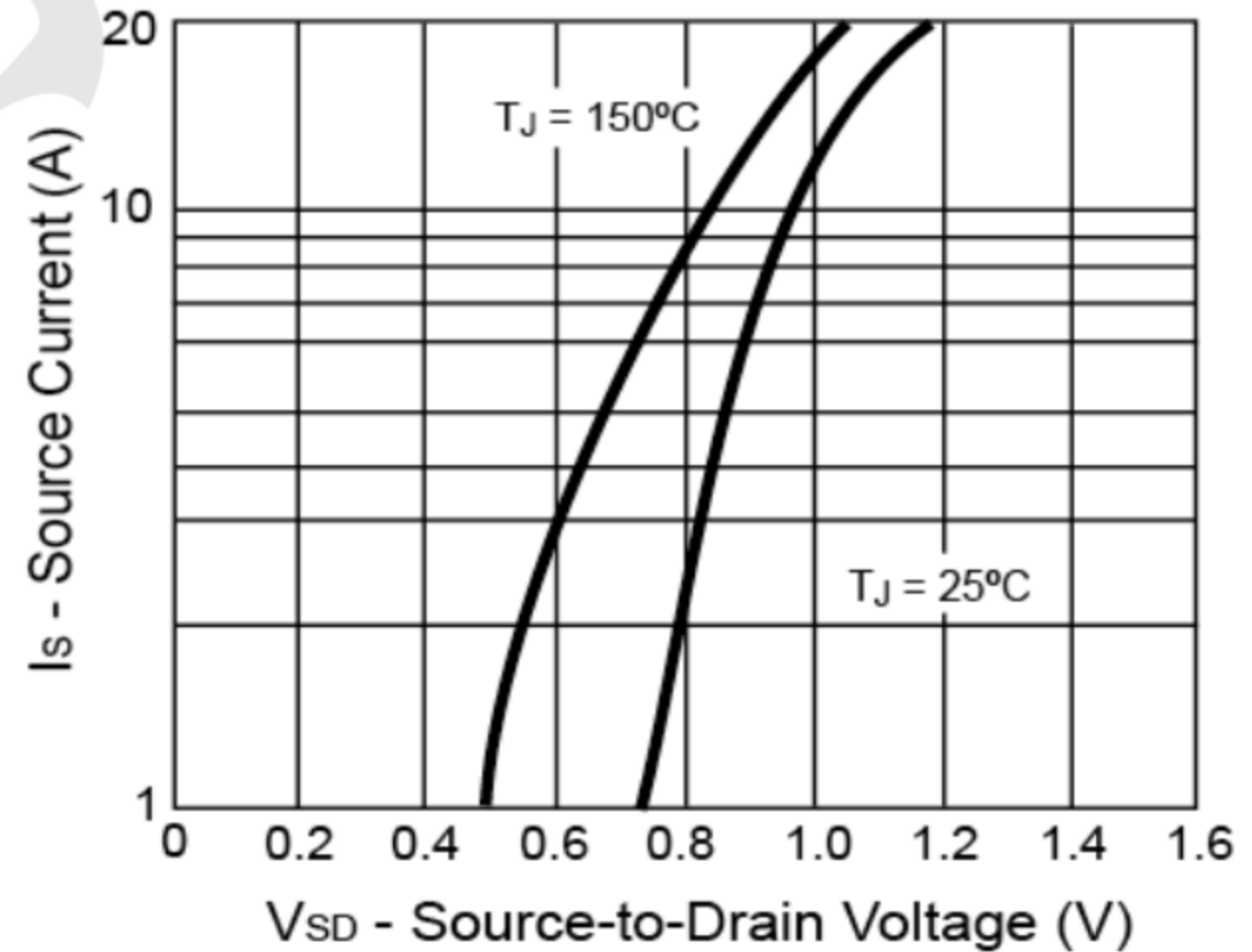
Gate Charge



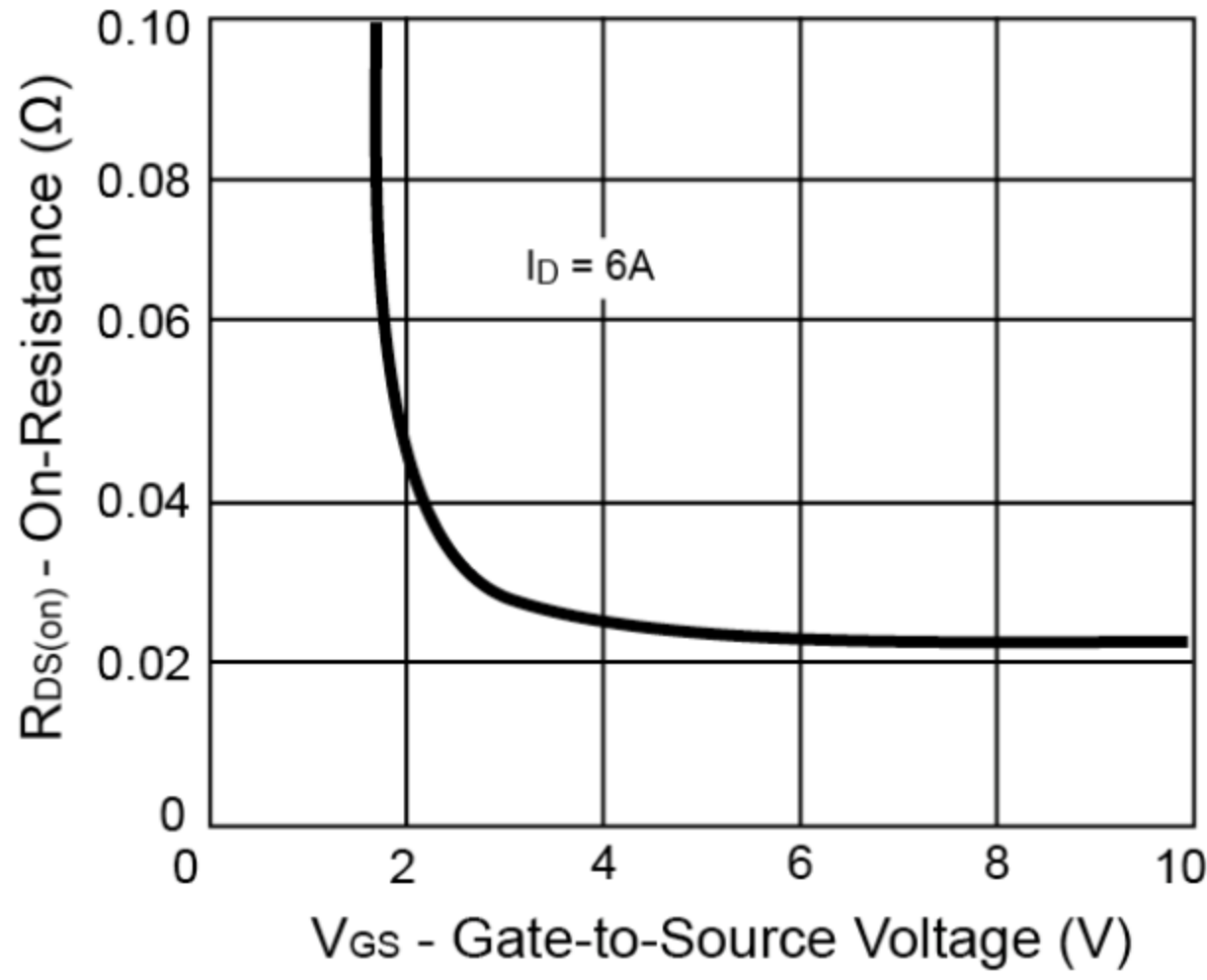
On-Resistance vs. Junction Temperature



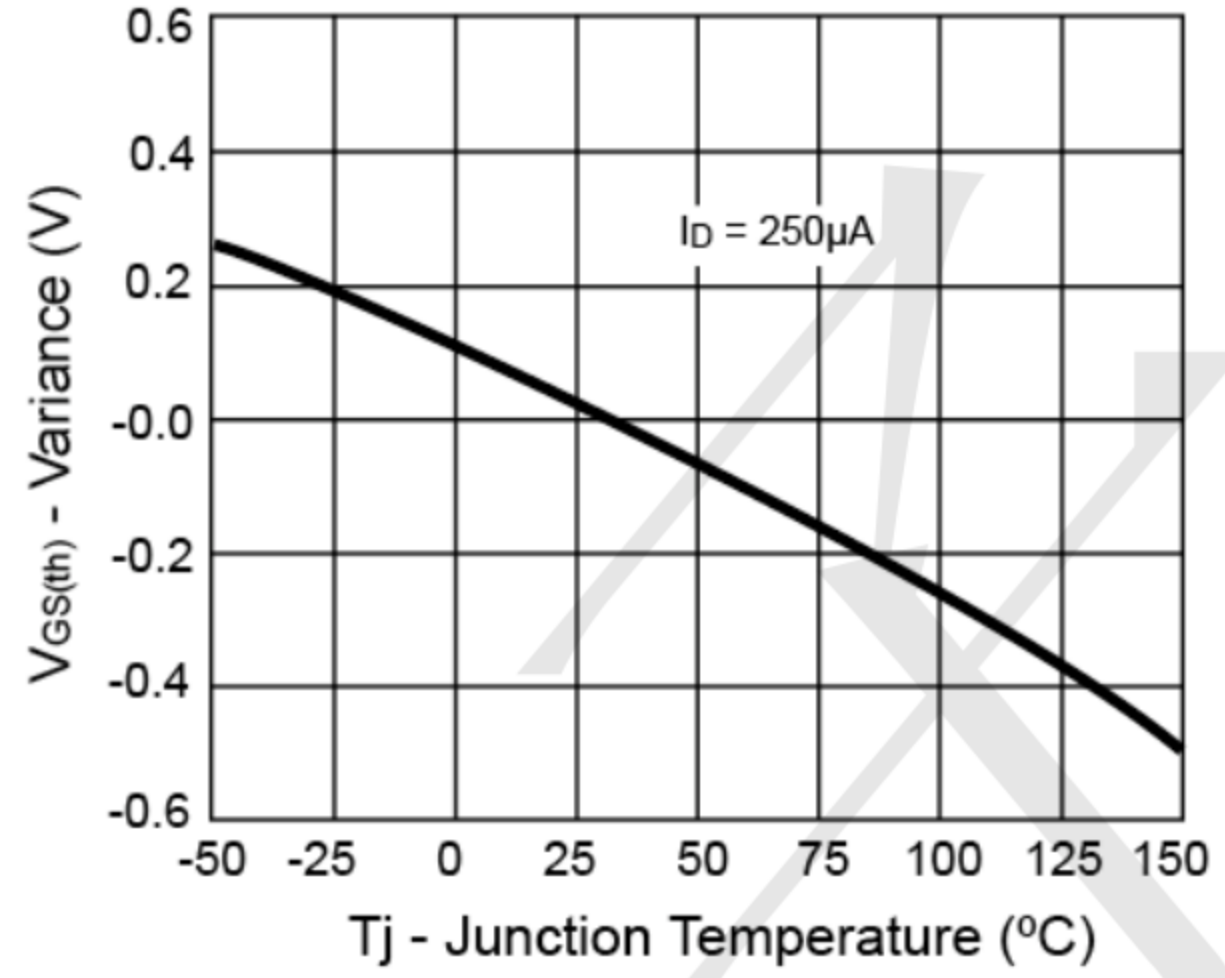
Source-Drain Diode Forward Voltage



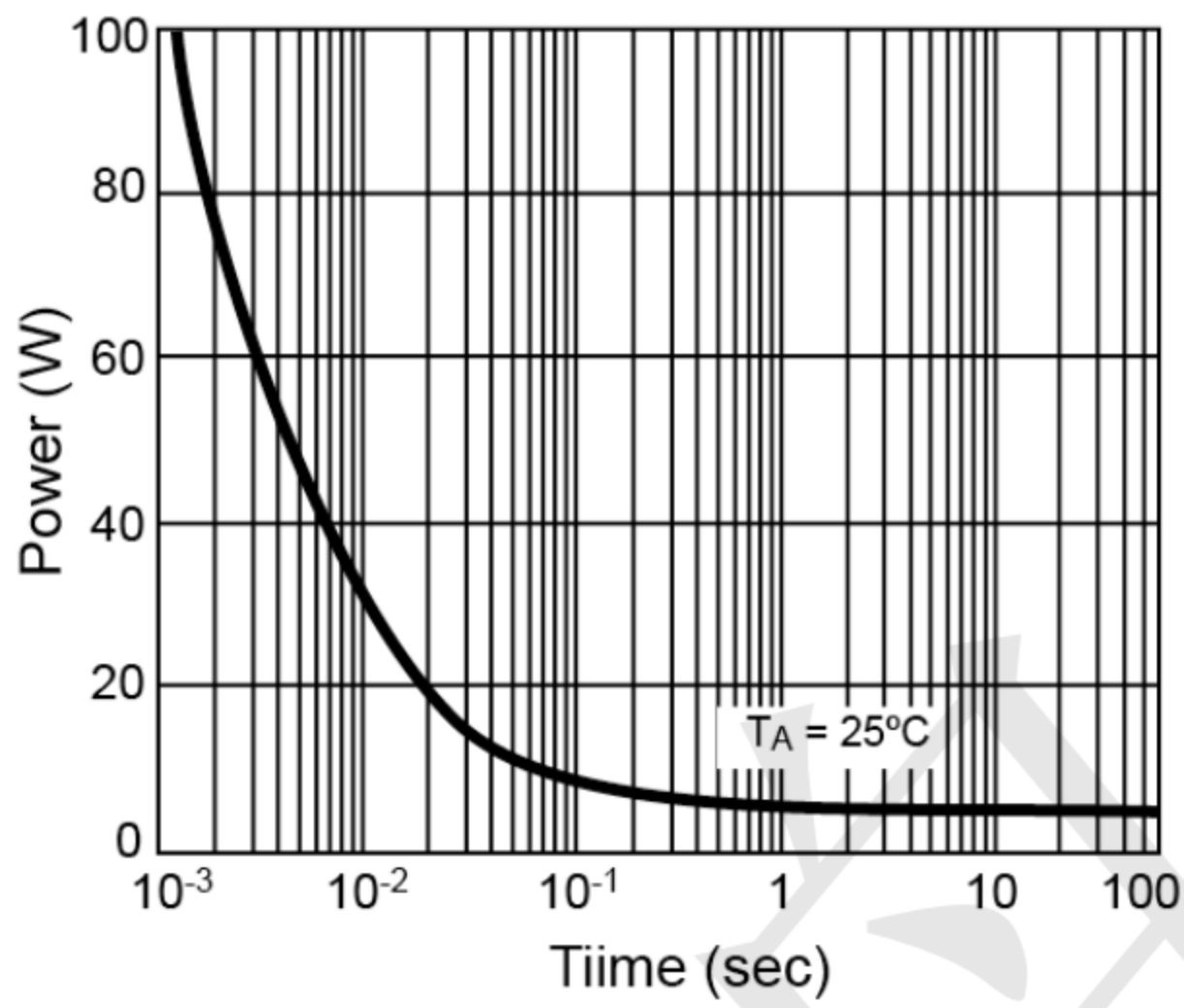
On-Resistance vs. Gate-Source Voltage



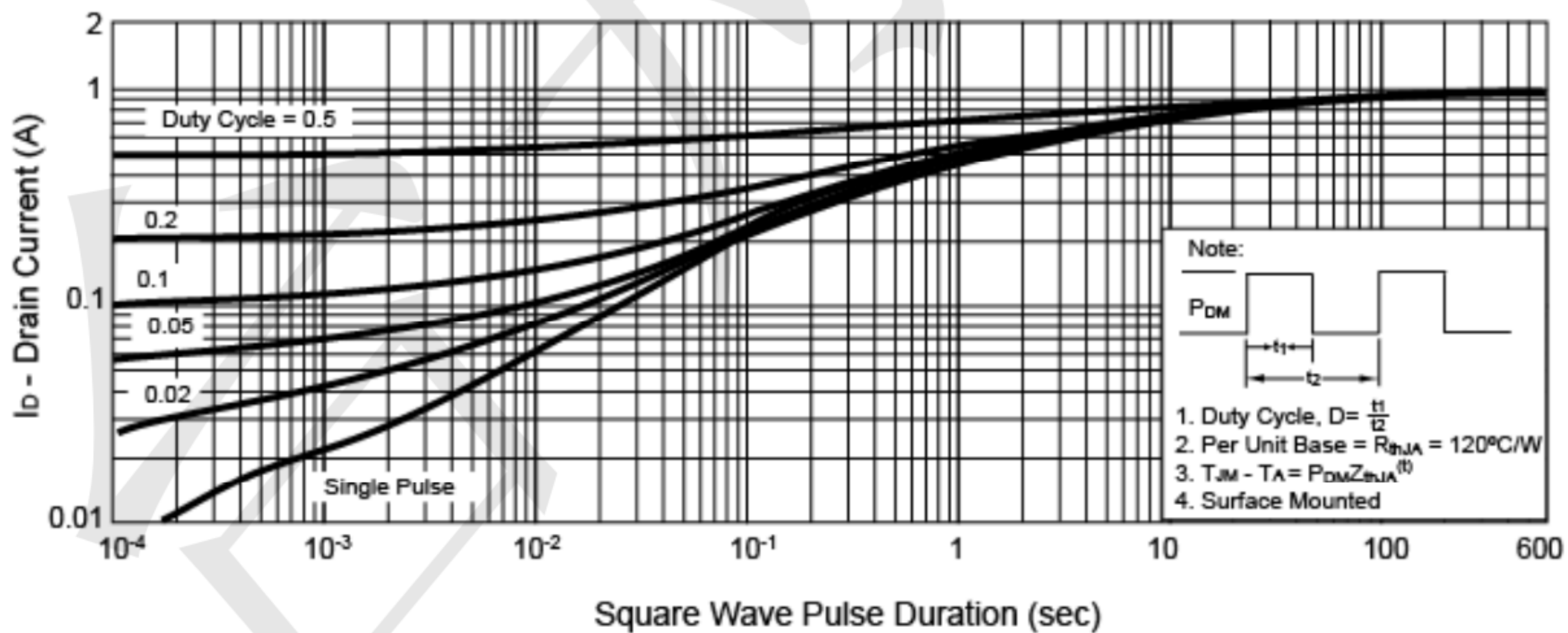
Threshold Voltage



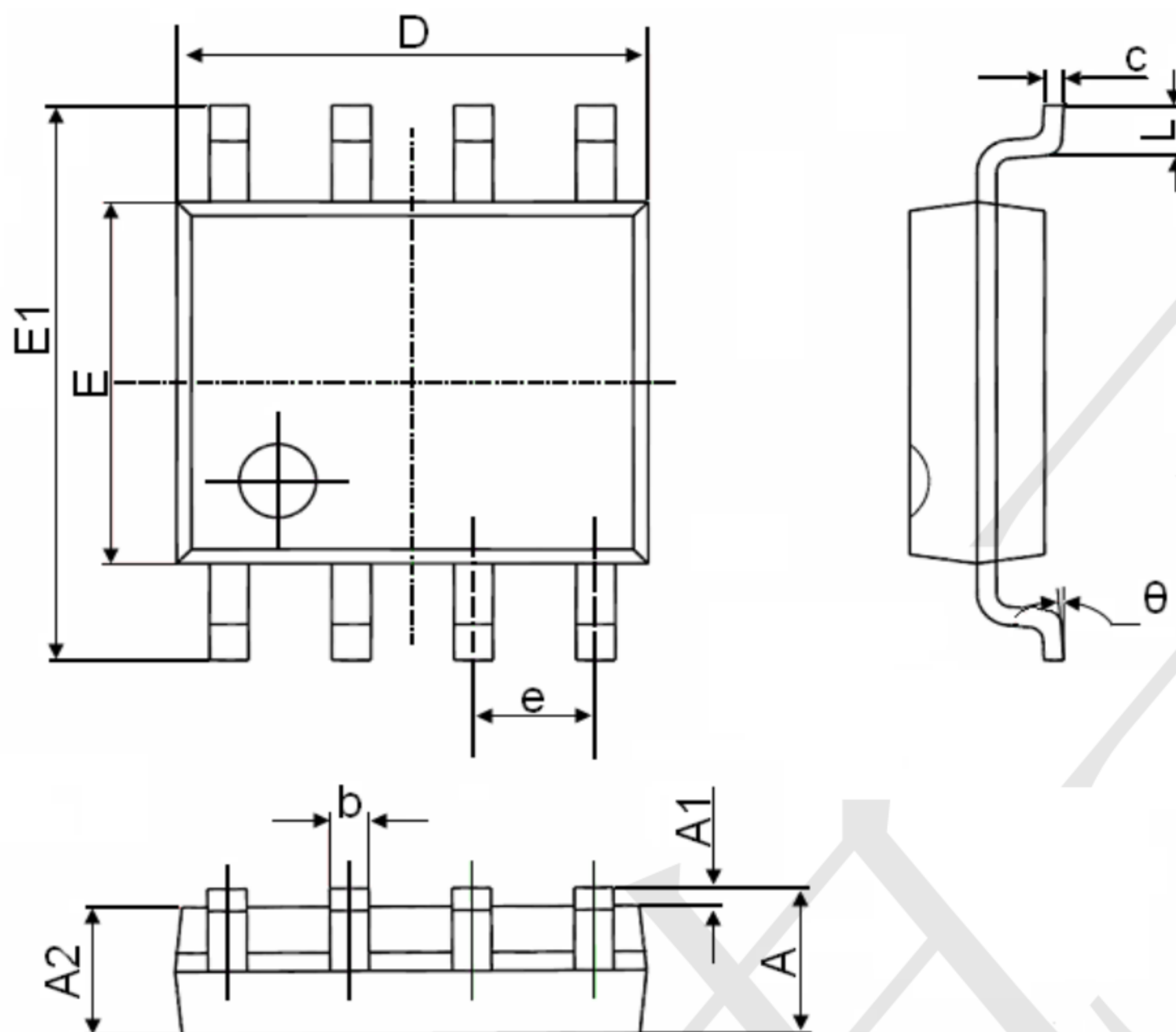
Single Pulse Power



Normalized Thermal Transient Impedance, Junction-to-Ambient

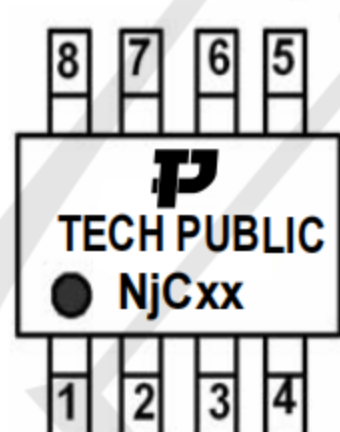


SOP-8 Package Information



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
theta	0°	8°	0°	8°

Marking:



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