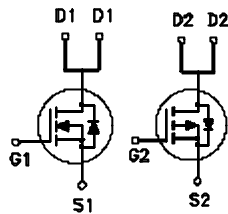


PRODUCT SUMMARY

	$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
N-Channel	30	65mΩ	4A
P-Channel	-30	150mΩ	-3A



G : GATE
D : DRAIN
S : SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_C = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	N-Channel	P-Channel	UNITS
Drain-Source Voltage		V _{DS}	30	-30	V
Gate-Source Voltage		V _{GS}	±20	±20	V
Continuous Drain Current	T _C = 25 °C	I _D	4	-3	A
	T _C = 70 °C		3	-2	
Pulsed Drain Current ¹		I _{DM}	10	-10	
Power Dissipation	T _C = 25 °C	P _D	2		W
	T _C = 70 °C		1.3		
Junction & Storage Temperature Range		T _J , T _{stg}	-55 to 150		°C
Lead Temperature (¹ / ₁₆ " from case for 10 sec.)		T _L	275		

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		110	$^{\circ}\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Duty cycle ≤ 1%

ELECTRICAL CHARACTERISTICS ($T_c = 25\text{ }^{\circ}\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT	
			MIN	TYP	MAX		
STATIC							
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	N-Ch	30			V
		$V_{GS} = 0V, I_D = -250\mu A$	P-Ch	-30			
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	N-Ch	0.9	1.5	2.5	
		$V_{DS} = V_{GS}, I_D = -250\mu A$	P-Ch	-0.9	-1.5	-2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$	N-Ch			± 100	nA
		$V_{DS} = 0V, V_{GS} = \pm 20V$	P-Ch			± 100	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$	N-Ch			1	μA
		$V_{DS} = -24V, V_{GS} = 0V$	P-Ch			-1	
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$	N-Ch			10	
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$	P-Ch			-10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	N-Ch	10			A
		$V_{DS} = -5V, V_{GS} = -10V$	P-Ch	-10			
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 3A$	N-Ch		72	120	mΩ
		$V_{GS} = -4.5V, I_D = -2A$	P-Ch		170	250	
		$V_{GS} = 10V, I_D = 4A$	N-Ch		48	65	
		$V_{GS} = -10V, I_D = -3A$	P-Ch		100	150	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 3A$	N-Ch		6		S
		$V_{DS} = -10V, I_D = -2A$	P-Ch		3		
DYNAMIC							
Total Gate Charge ²	Q_g	N-Channel $V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V,$ $I_D = 3A$	N-Ch		5	7.5	nC
			P-Ch		5.5	6.6	
Gate-Source Charge ²	Q_{gs}	P-Channel $V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = -10V,$ $I_D = -2A$	N-Ch		0.8		
			P-Ch		1.2		
Gate-Drain Charge ²	Q_{gd}		N-Ch		1.0		
			P-Ch		0.9		

Turn-On Delay Time ²	t _{d(on)}	N-Channel V _{DS} = 15V, R _L = 15 Ω I _D ≅ 1A, V _{GS} = 10V, R _{GEN} = 6 Ω	N-Ch		7	11	nS
			P-Ch		8	12	
Rise Time ²	t _r	P-Channel V _{DS} = -15V, R _L = 15 Ω I _D ≅ -1A, V _{GS} = -10V, R _{GEN} = 6 Ω	N-Ch		12	18	
			P-Ch		11	18	
Turn-Off Delay Time ²	t _{d(off)}		N-Ch		12	18	
			P-Ch		14	21	
Fall Time ²	t _f		N-Ch		7	11	
			P-Ch		8	12	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _C = 25 °C)							
Forward Voltage ¹	V _{SD}	I _F = 0.9A, V _{GS} = 0V	N-Ch			1.2	V
		I _F = -0.9A, V _{GS} = 0V	P-Ch			-1.2	
Reverse Recovery Time	t _{rr}	I _F = 0.9A, dI _F /dt = 100A / μS	N-Ch		40	80	nS
		I _F = -0.9A, dI _F /dt = 100A / μS	P-Ch		40	80	

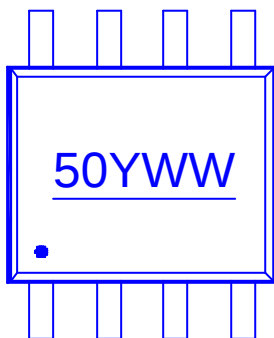
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

REMARK: THIS PRODUCT MARKED WITH “50YWW”

Orders for parts with Lead-Free plating can be placed using the PXXXXXXG parts name.



Marking Description:

5 - N+P MOSFET

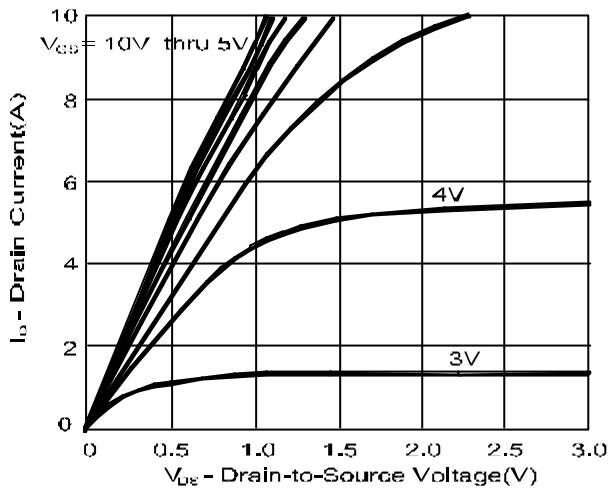
0 - Serial Number

Y - Year

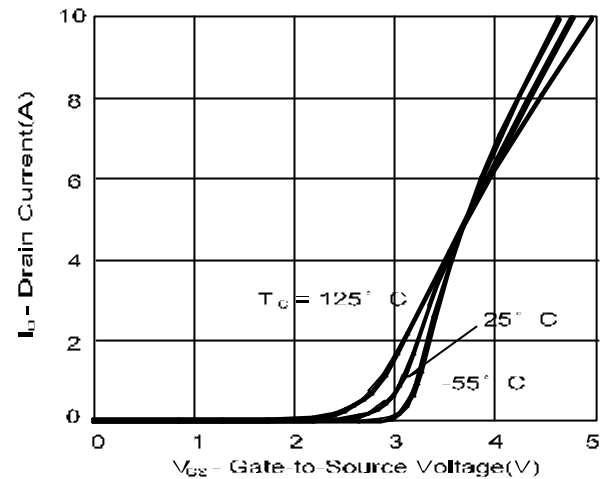
W - Week

N-CHANNEL

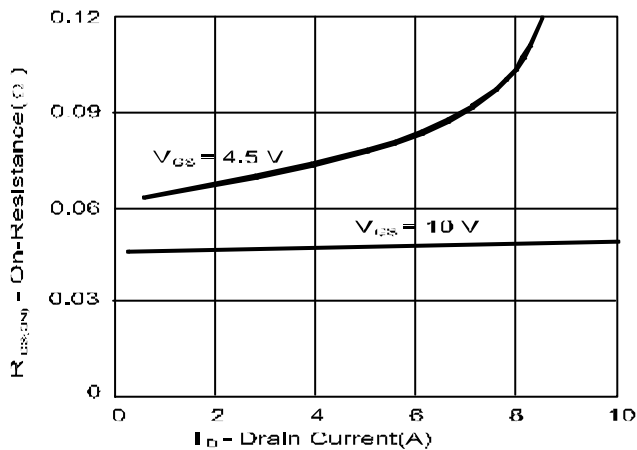
Output Characteristics



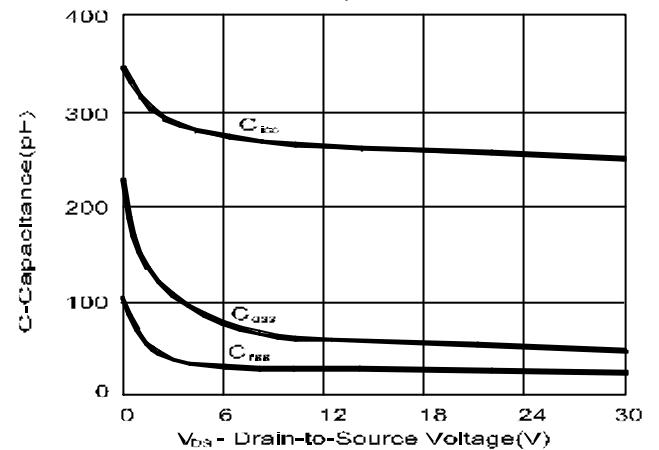
Transfer Characteristics



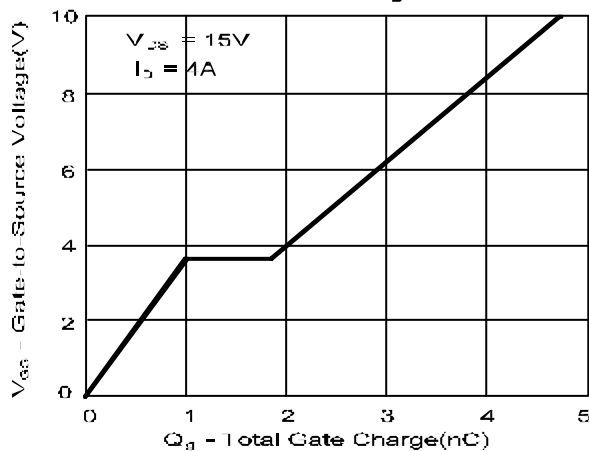
On-Resistance vs. Drain Current



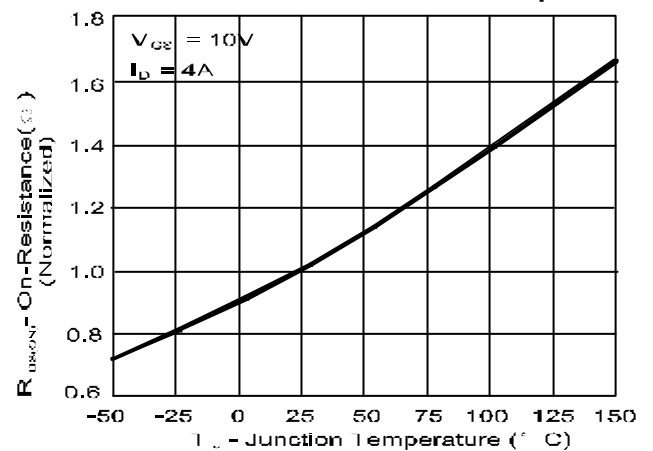
Capacitance

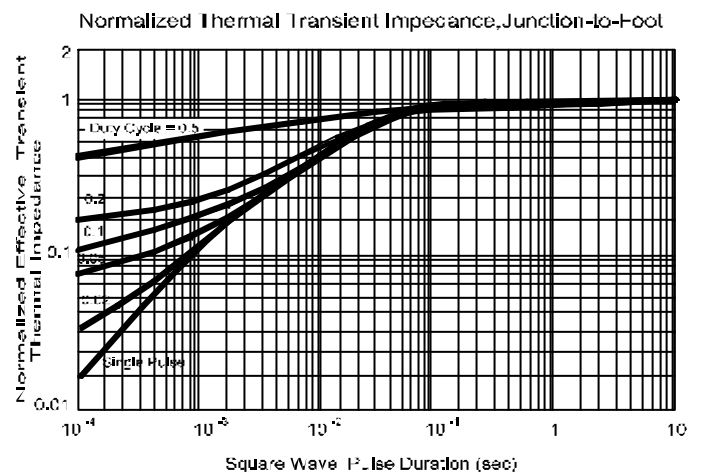
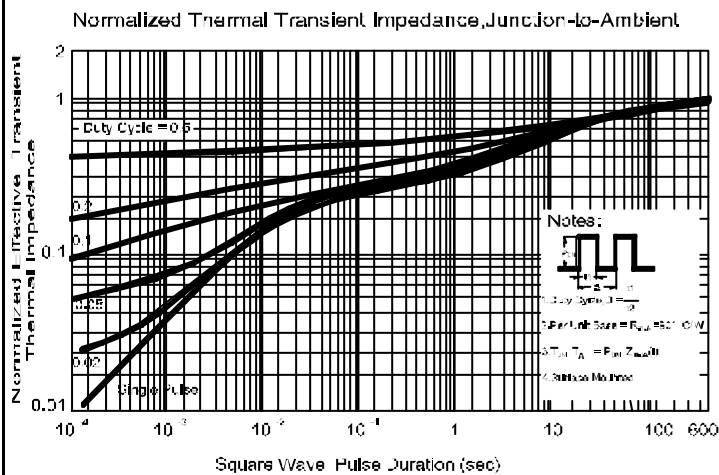
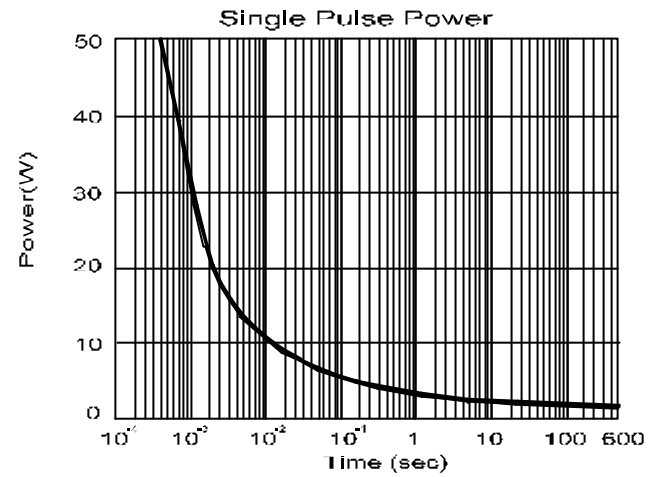
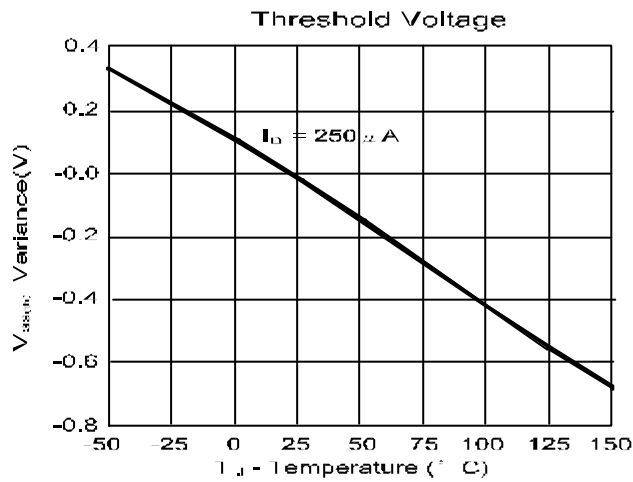
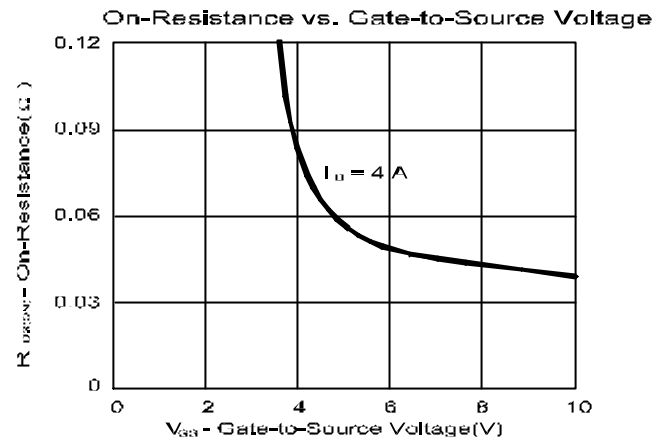
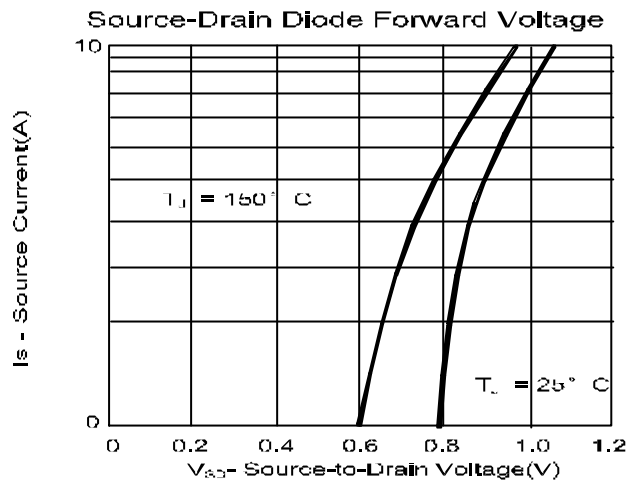


Gate Charge



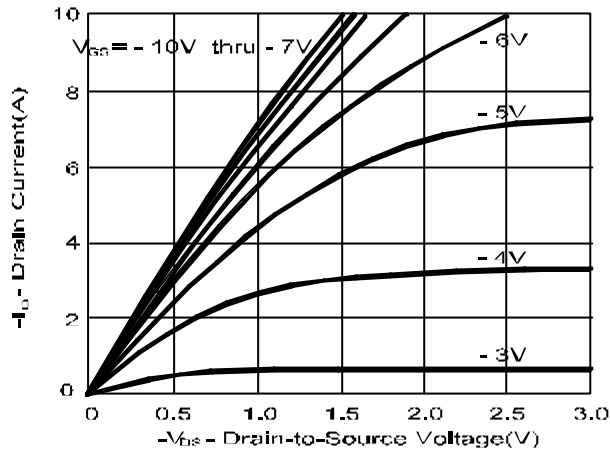
On-Resistance vs. Junction Temperature



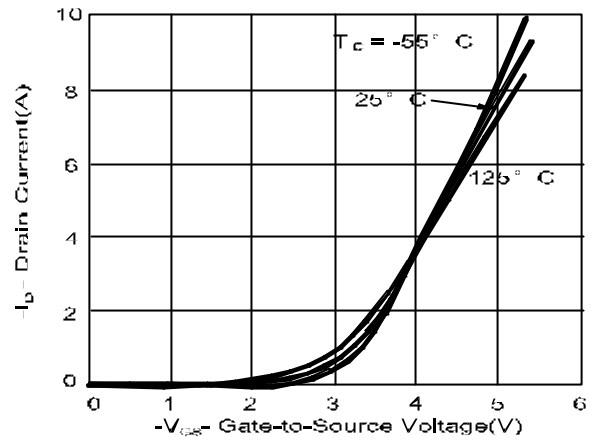


P-CHANNEL

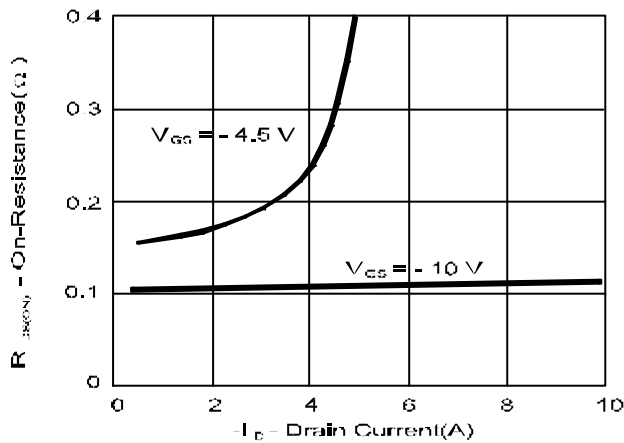
Output Characteristics



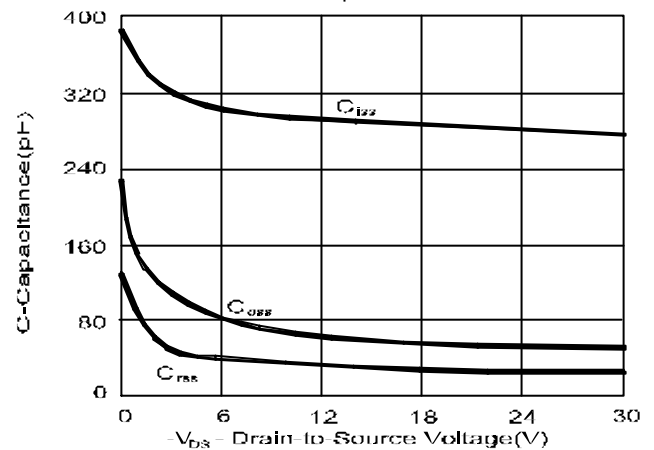
Transfer Characteristics



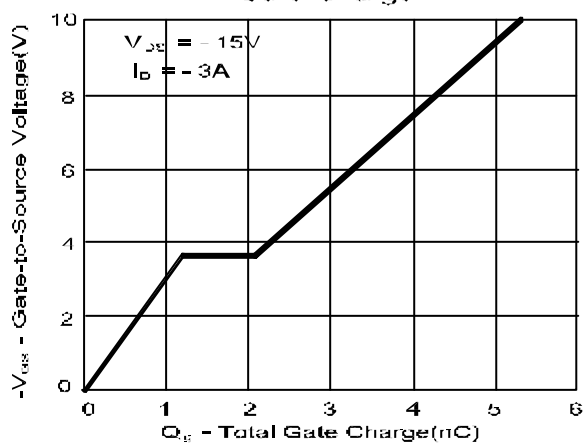
On-Resistance vs. Drain Current



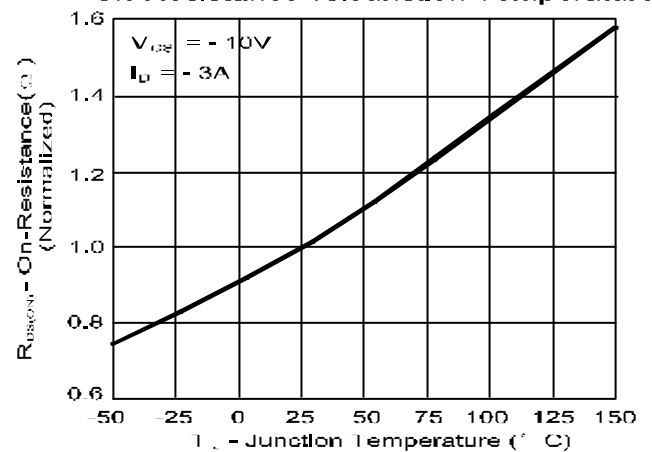
Capacitance

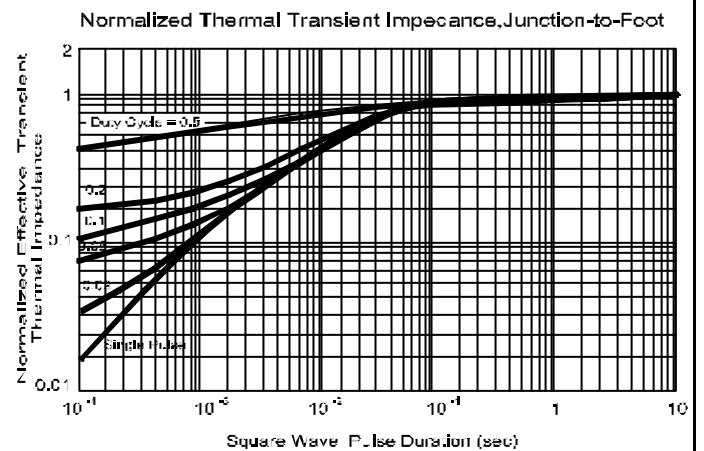
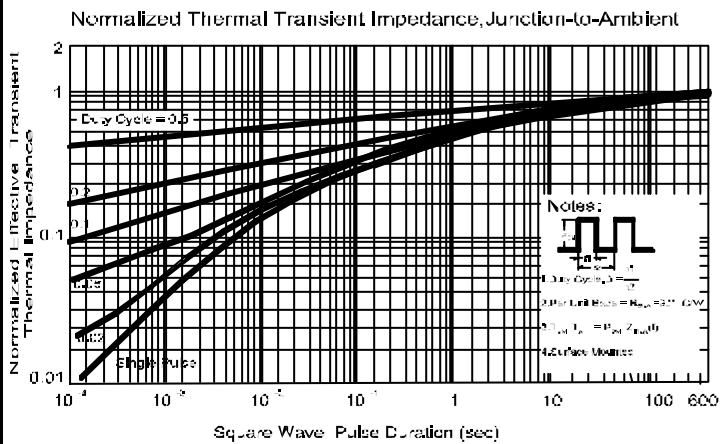
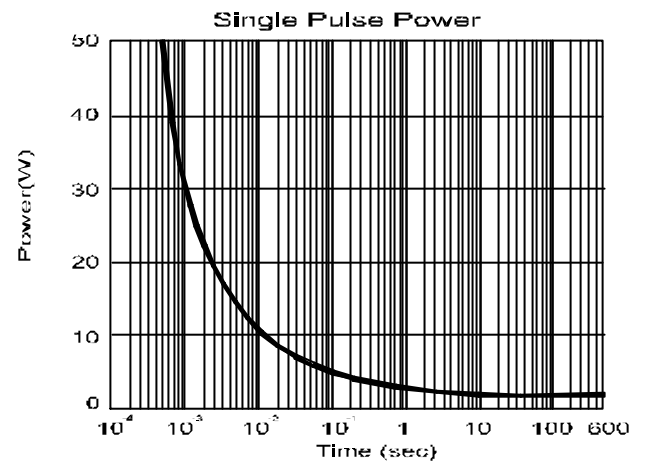
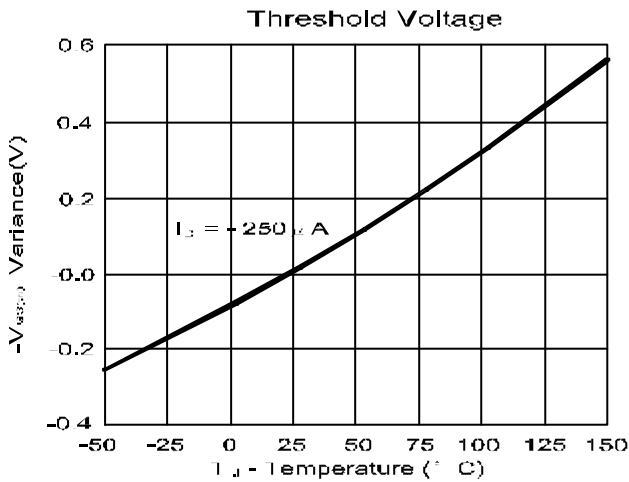
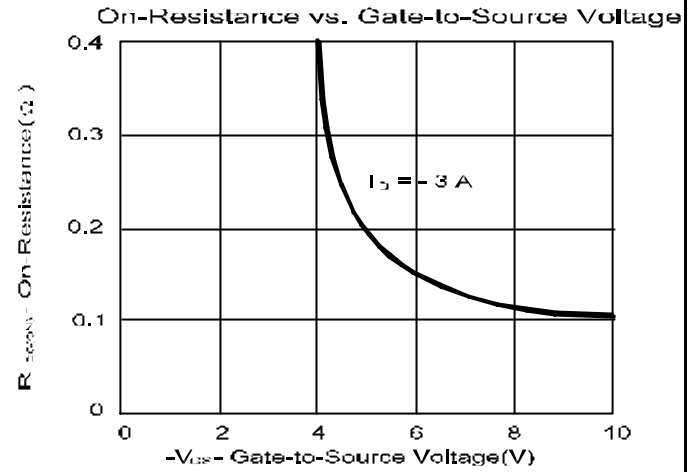
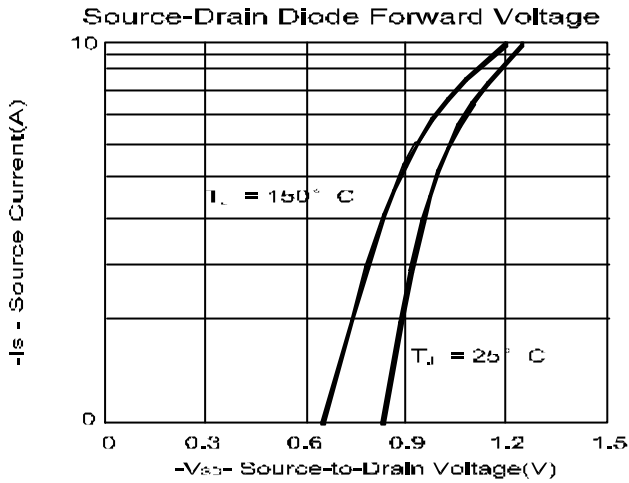


Gate Charge



On-Resistance vs. Junction Temperature





TSOPJW-8 MECHANICAL DATA

Dimension	mm			Dimension	Mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	2.95	3.05	3.10	H	0.30	0.45	0.60
B	2.30	2.40	2.50	I			
C	2.65	2.85	3.05	J	7° NOM		
D	0.25	0.32	0.40	K	0.04 REF.		
E	0.65BSC			L	0.1	0.15	0.20
F	0.925		1.00	M			
G	0.01		0.1	N			

