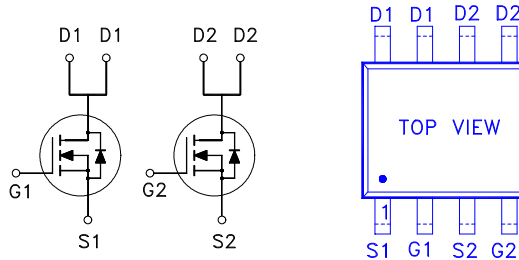


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
80	80m $\Omega$	4A



G : GATE  
D : DRAIN  
S : SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	80	V
Gate-Source Voltage		$V_{GS}$	$\pm 25$	V
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	$I_D$	4	A
	$T_A = 70\text{ }^\circ\text{C}$		3	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	20	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	$P_D$	1.9	W
	$T_A = 70\text{ }^\circ\text{C}$		1.2	
Operating Junction & Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	$^\circ\text{C}$
Lead Temperature ( <sup>1</sup> / <sub>16</sub> " from case for 10 sec.)		$T_L$	275	

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		65	$^\circ\text{C} / \text{W}$
Junction-to-Lead	$R_{\theta JL}$		25	$^\circ\text{C} / \text{W}$

<sup>1</sup>Pulse width limited by maximum junction temperature.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	80			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	2.0	3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 25V$			$\pm 100$	nA

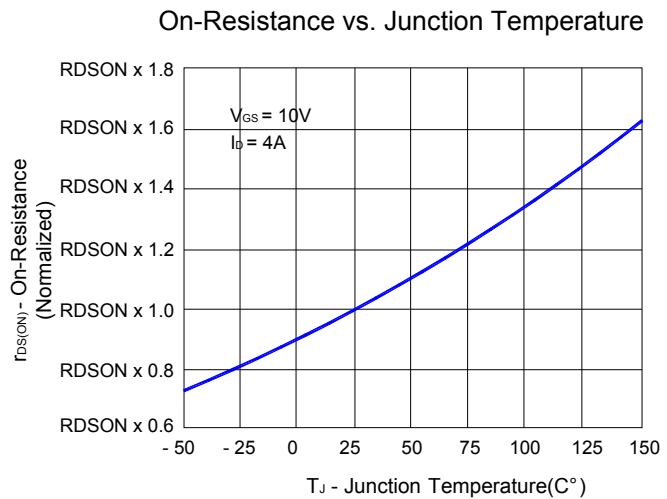
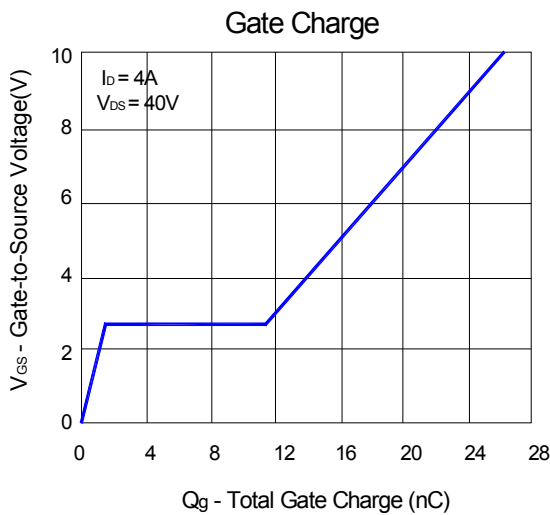
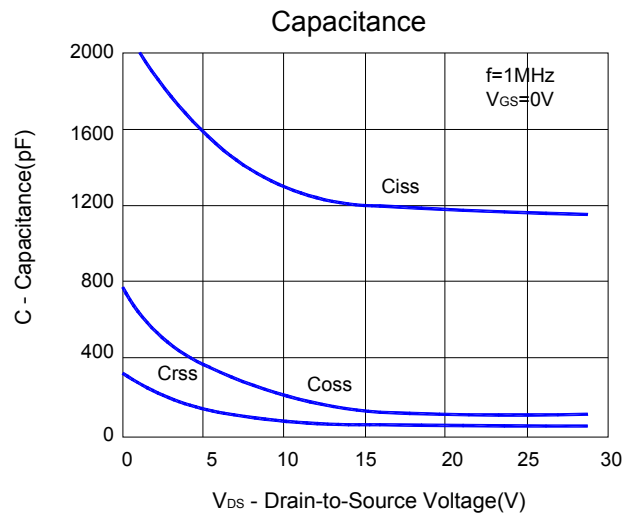
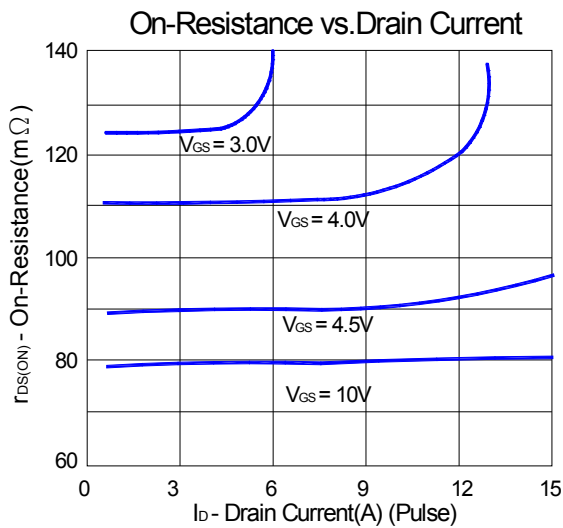
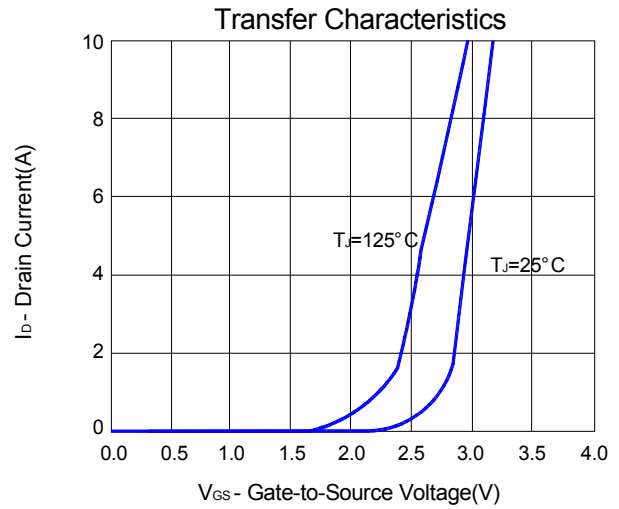
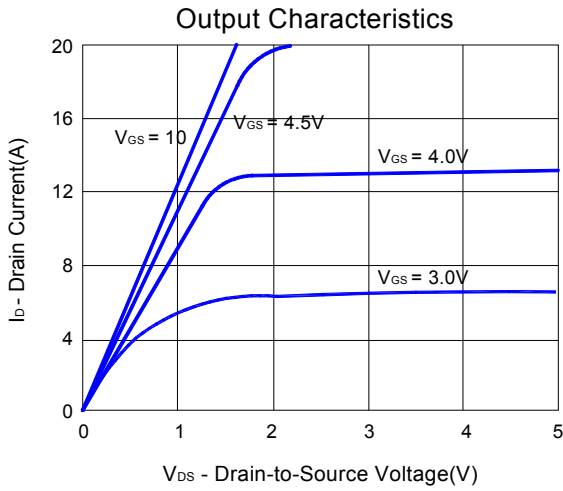
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 64V, V_{GS} = 0V$			1	$\mu A$
		$V_{DS} = 64V, V_{GS} = 0V, T_J = 70\text{ }^\circ C$			10	
On-State Drain Current <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	20			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 1A$		70	90	$m\Omega$
		$V_{GS} = 10V, I_D = 3A$		60	80	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 4A$		7.5		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		1165	1400	$pF$
Output Capacitance	$C_{oss}$			104		
Reverse Transfer Capacitance	$C_{rss}$			57		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1.5	1.8	$\Omega$
Total Gate Charge <sup>2</sup> (10V)	$Q_g$	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V,$ $I_D = 4A$		29		$nC$
Total Gate Charge <sup>2</sup> (4.5V)	$Q_g$			12		
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			2.0		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			6.8		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DS} = 0.5V_{(BR)DSS}, R_L = 40\Omega$ $I_D \cong 4A, V_{GS} = 10V, R_G = 3.3\ \Omega$		6.0		$nS$
Rise Time <sup>2</sup>	$t_r$			3.8		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			21		
Fall Time <sup>2</sup>	$t_f$			5.0		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS</b>						
Continuous Current	$I_S$				4	A
Pulsed Current <sup>3</sup>	$I_{SM}$				20	
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 1A, V_{GS} = 0V$		1	1.3	V
Reverse Recovery Time	$t_{rr}$	$I_F = I_S, di_F/dt = 100A / \mu S$		30		nS
Reverse Recovery Charge	$Q_{rr}$			40		nC

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

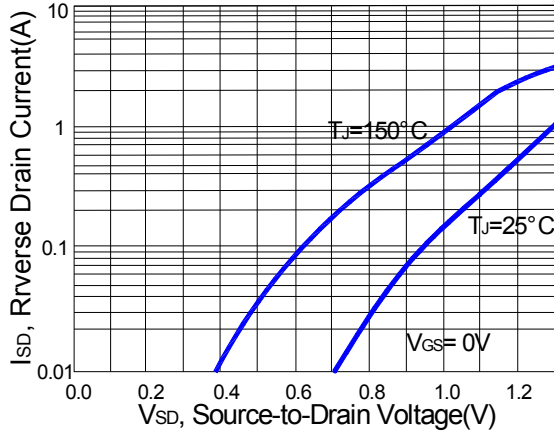
<sup>2</sup>Independent of operating temperature.

<sup>3</sup>Pulse width limited by maximum junction temperature.

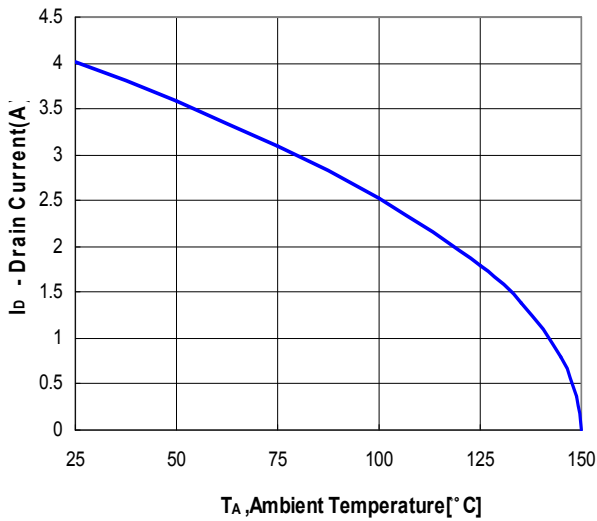
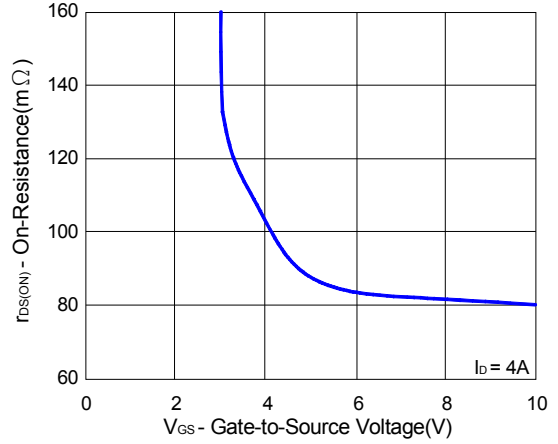
**REMARK: THE PRODUCT MARKED WITH "P8008HV", DATE CODE or LOT #**



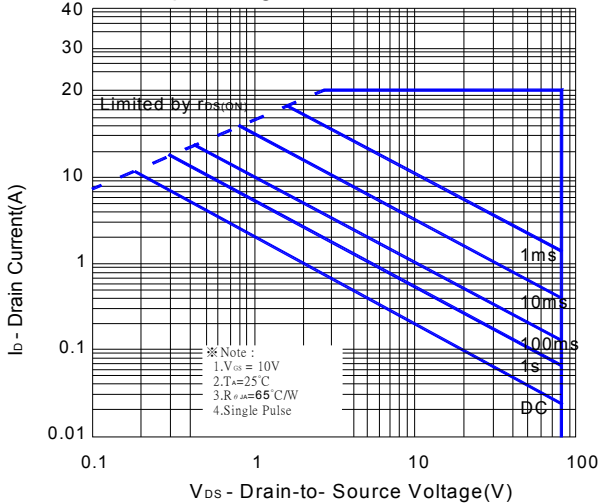
Typical Source-Drain Diode Forward Voltage



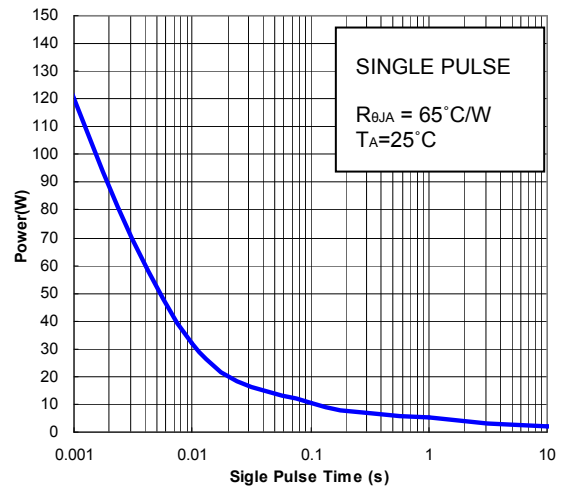
On-Resistance vs. Gate-to-Source Voltage

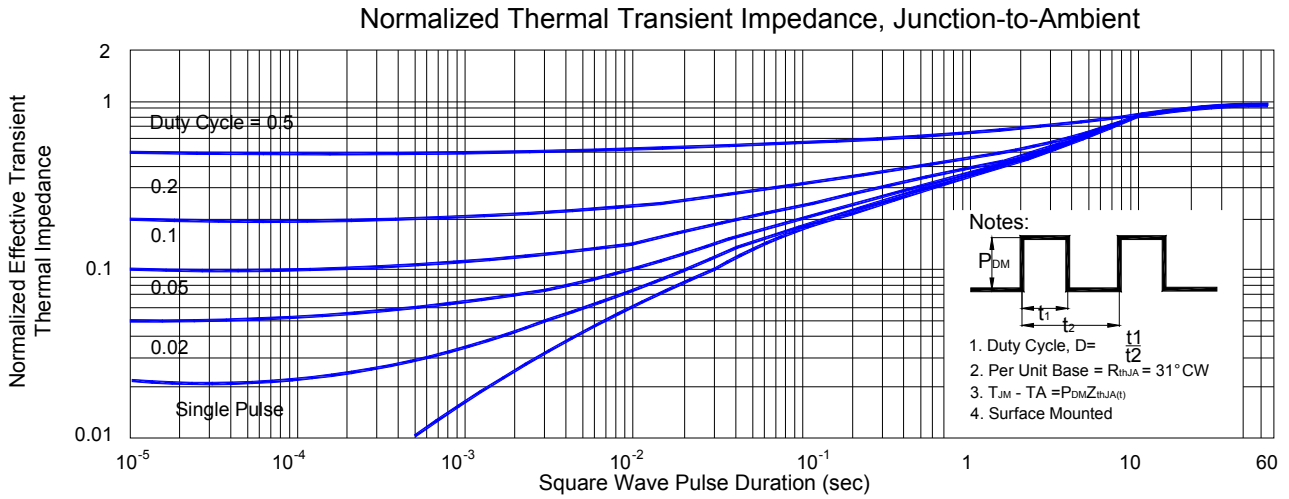


Safe Operating Area, Junction-to-Case



Single Pulse Maximum Power dissipation





**SOIC-8 (D) MECHANICAL DATA**

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8		5.0	H	0.4		1.27
B	3.8		4.0	I	0.18		0.25
C	5.8		6.2	J		0.22	
D	0.35		0.48	K	0°		8°
E		1.27		L			
F			1.65	M			
G	0.1		0.25	N			

