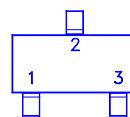
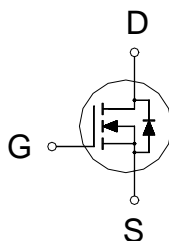


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
20	75m	3A



- 1. GATE
- 2. DRAIN
- 3. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	$I_D$	3	A
	$T_C = 100\text{ }^\circ\text{C}$		2	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	20	
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	$P_D$	0.6	W
	$T_C = 100\text{ }^\circ\text{C}$		0.5	
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-Case	$R_{\theta JC}$		65	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		230	

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

<sup>2</sup>Duty cycle  $\leq 1\%$

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.45	0.75	1.2	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 12V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 16V, V_{GS} = 0V$			1	$\mu\text{A}$
		$V_{DS} = 16V, V_{GS} = 0V, T_J = 125\text{ }^\circ\text{C}$			10	
On-State Drain Current <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = 10V, V_{GS} = 10V$	3			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 2.5V, I_D = 1.5A$		70	105	m
		$V_{GS} = 4.5V, I_D = 3A$		50	75	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 15V, I_D = 3A$		16		S

DYNAMIC						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		450		pF
Output Capacitance	$C_{oss}$			200		
Reverse Transfer Capacitance	$C_{rss}$			60		
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V,$ $I_D = 3A$		15		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			2.0		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			7.0		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DS} = 15V,$ $I_D \cong 1A, V_{GS} = 10V, R_{GS} = 2.5$		6.0		nS
Rise Time <sup>2</sup>	$t_r$			6.0		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			20		
Fall Time <sup>2</sup>	$t_f$			5.0		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ( $T_C = 25^\circ C$ )						
Continuous Current	$I_S$			2.3		A
Pulsed Current <sup>3</sup>	$I_{SM}$			4.6		
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = I_S, V_{GS} = 0V$		1.5		V

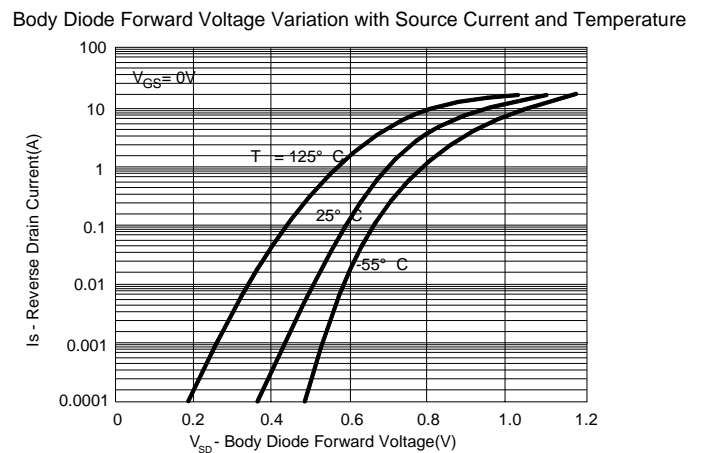
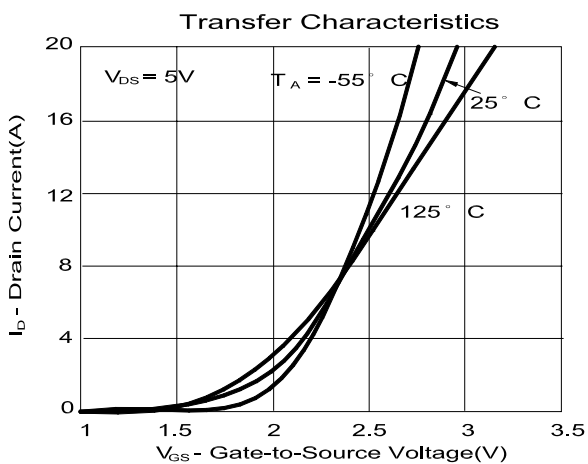
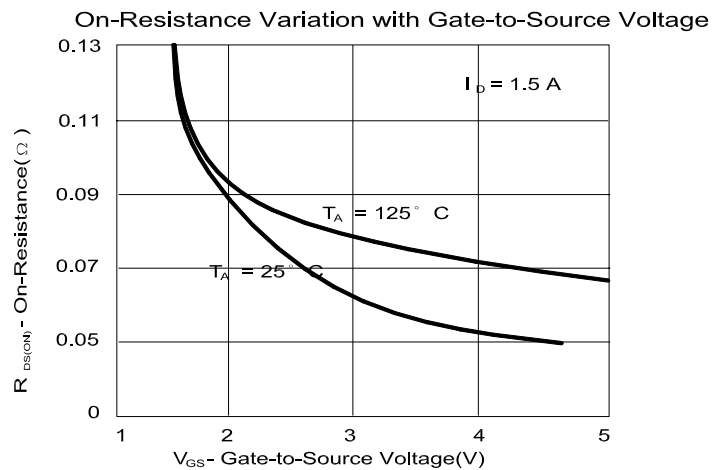
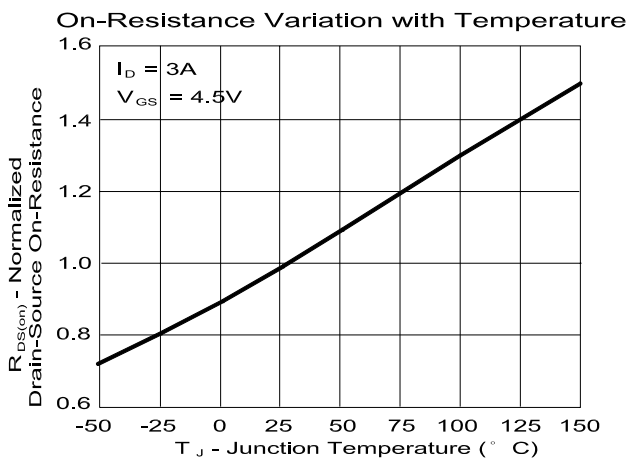
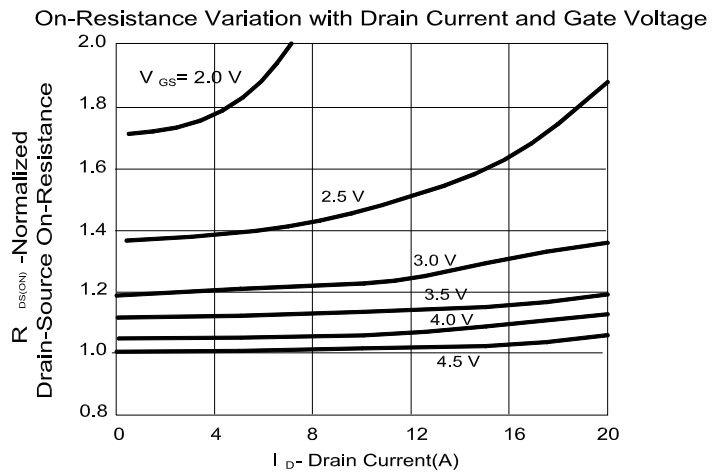
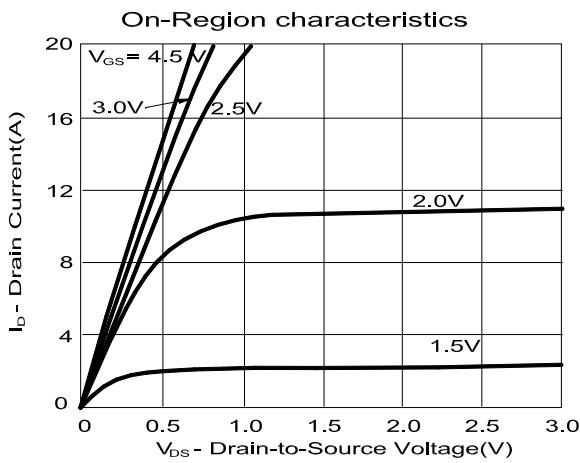
<sup>1</sup>Pulse test : Pulse Width  $\leq 300 \mu sec$ , Duty Cycle  $\leq 2\%$ .

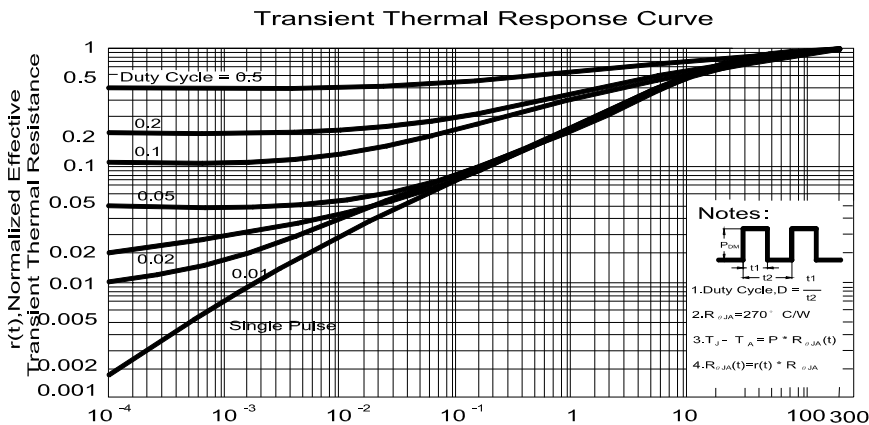
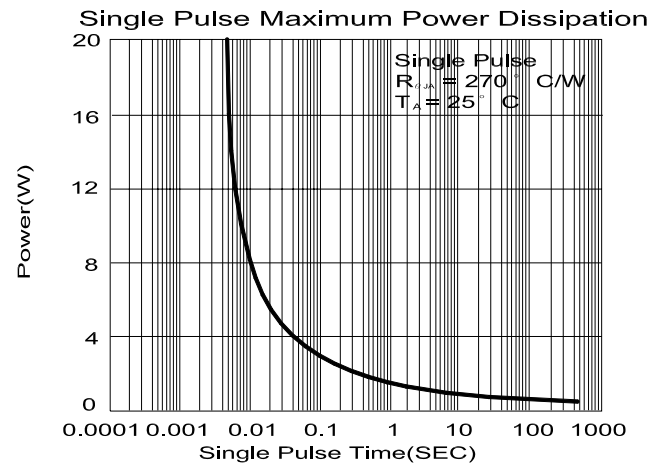
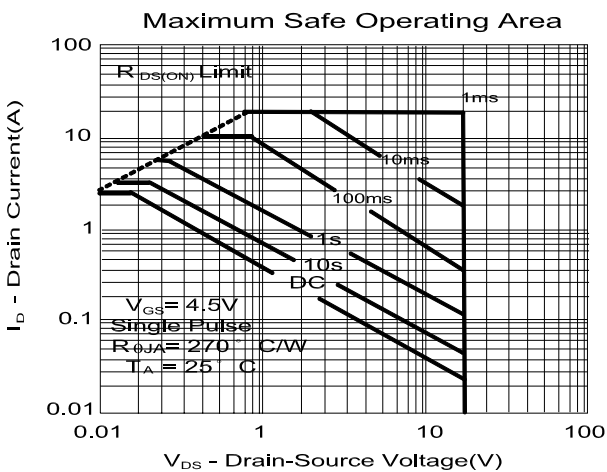
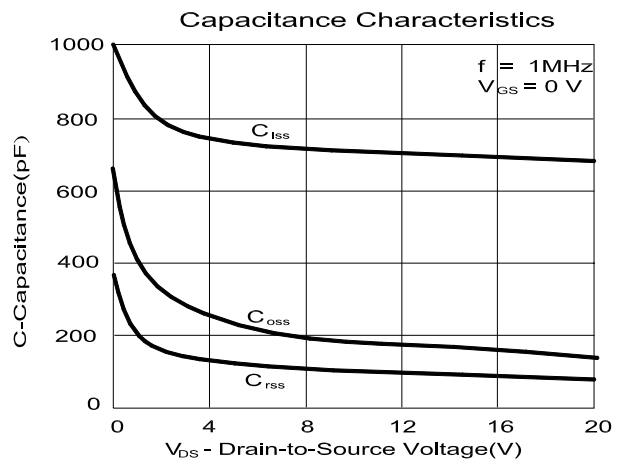
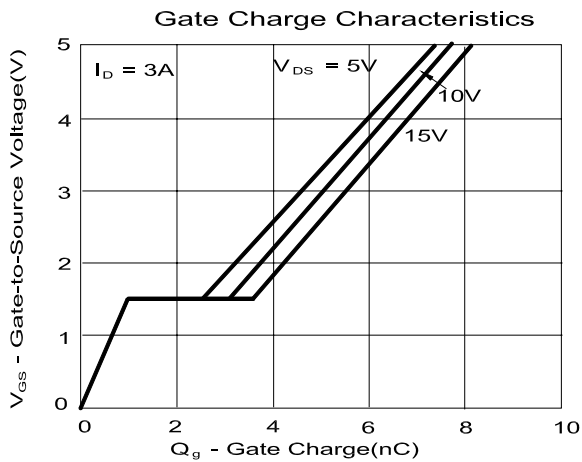
<sup>2</sup>Independent of operating temperature.

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

**REMARK: THE PRODUCT MARKED WITH “11YWW”, DATE CODE or LOT #**

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





**SOT-23 (M3) MECHANICAL DATA**

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A		0.95		H	0.10	0.15	0.25
B	2.60	2.80	3.00	I	0.37		
C	1.40	1.60	1.80	J			
D	2.70	2.90	3.10	K			
E	1.00	1.10	1.30	L			
F	0.00		0.10	M			
G	0.35	0.4	0.5	N			

