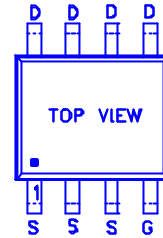
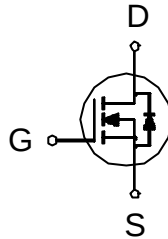


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30	18m Ω	8A



G : GATE
D : DRAIN
S : SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	8	A
	$T_C = 70\text{ }^{\circ}\text{C}$		6	
Pulsed Drain Current ¹		I_{DM}	32	
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	2.5	W
	$T_C = 70\text{ }^{\circ}\text{C}$		1.6	
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Lead Temperature ($^{\circ}\text{C}$ from case for 10 sec.)		T_L	275	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		50	$^{\circ}\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Duty cycle $\leq 1\%$

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	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.5	2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$			10	

On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 5V, V _{GS} = 10V	8			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 7A		22	30	mΩ
		V _{GS} = 10V, I _D = 8A		15	18	
Forward Transconductance ¹	g _{fs}	V _{DS} = 15V, I _D = 8A		16		S
DYNAMIC						
Input Capacitance	C _{iSS}	V _{GS} = 0V, V _{DS} = 15V, f = 1MHz		1200		pF
Output Capacitance	C _{oss}			220		
Reverse Transfer Capacitance	C _{rSS}			100		
Total Gate Charge ²	Q _g	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 4.5V, I _D = 2A		15	20	nC
Gate-Source Charge ²	Q _{gs}			5.8		
Gate-Drain Charge ²	Q _{gd}			3.8		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 15V I _D ≅ 1A, V _{GEN} = 10V, R _G = 0.2Ω		11	18	nS
Rise Time ²	t _r			17	26	
Turn-Off Delay Time ²	t _{d(off)}			37	54	
Fall Time ²	t _f			20	30	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _c = 25 °C)						
Continuous Current	I _S				2.3	A
Pulsed Current ³	I _{SM}				4.6	
Forward Voltage ¹	V _{SD}	I _F = 1A, V _{GS} = 0V			1.1	V
Reverse Recovery Time	t _{rr}	I _F = 2.3A, dI _F /dt = 100A / μS		50	80	nS

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

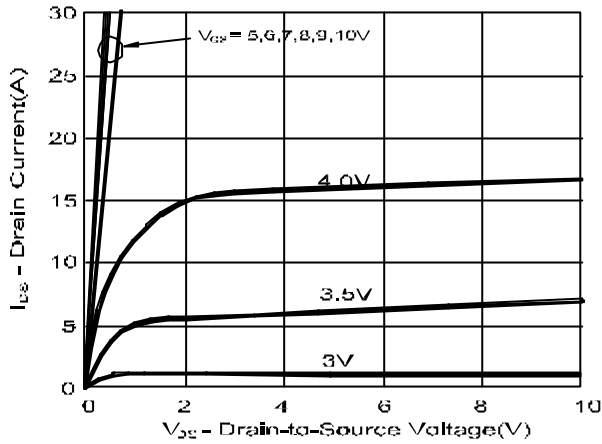
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

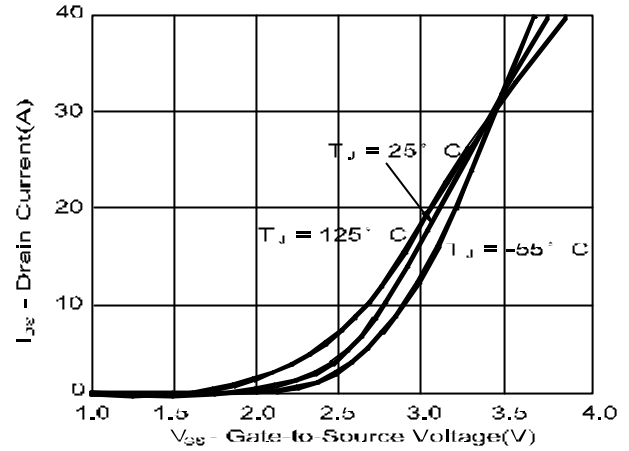
REMARK: THE PRODUCT MARKED WITH “P1803BVG”, DATE CODE or LOT #

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

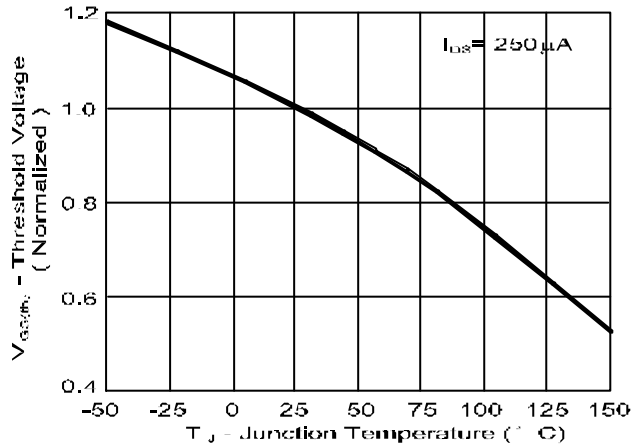
Output Characteristics



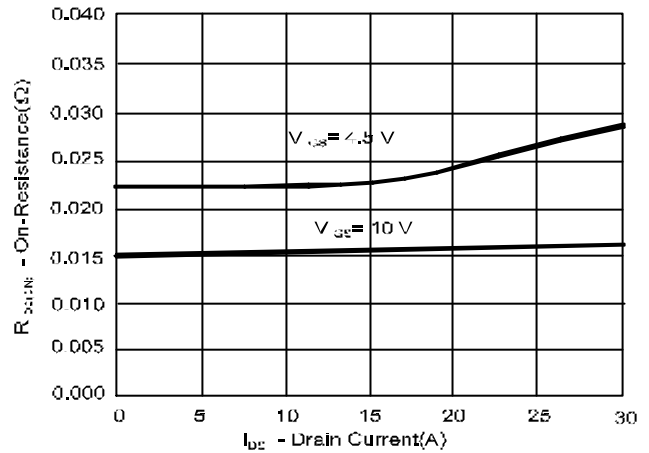
Transfer Characteristics



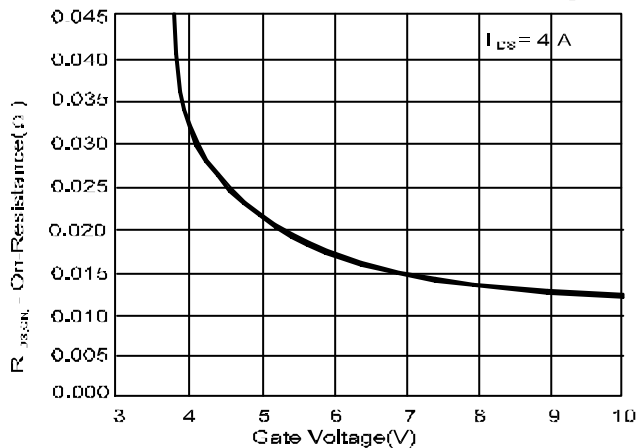
Threshold Voltage vs. Junction Temperature



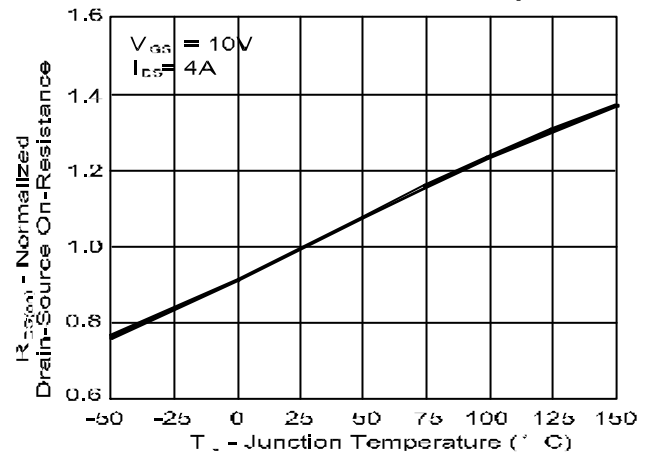
On-Resistance vs. Drain Current

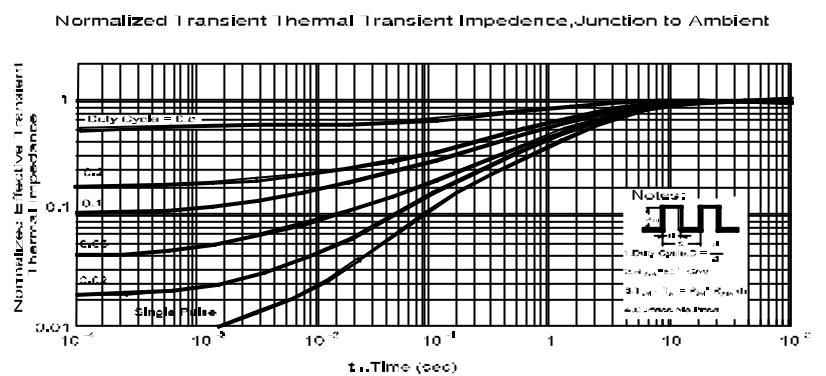
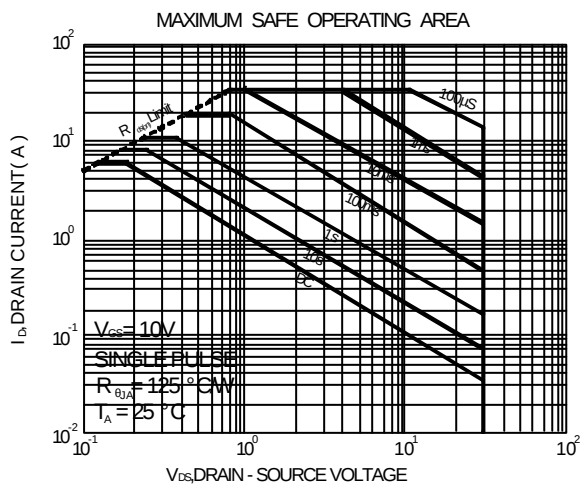
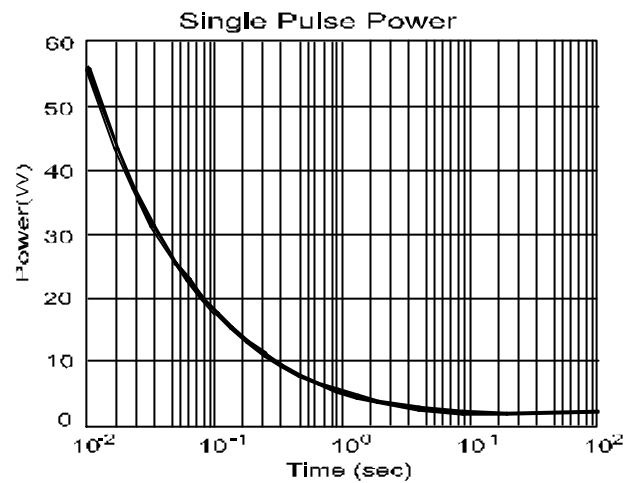
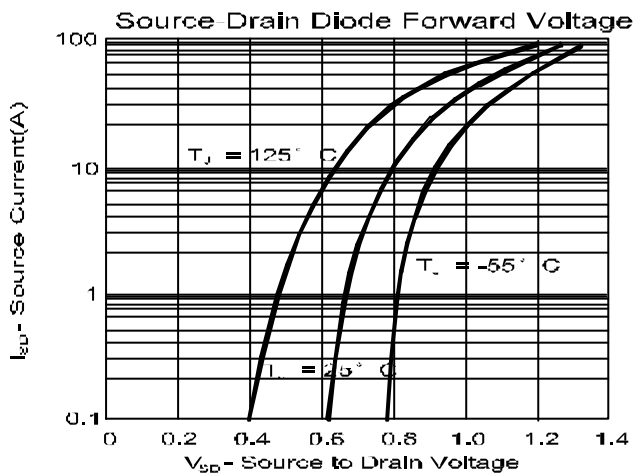
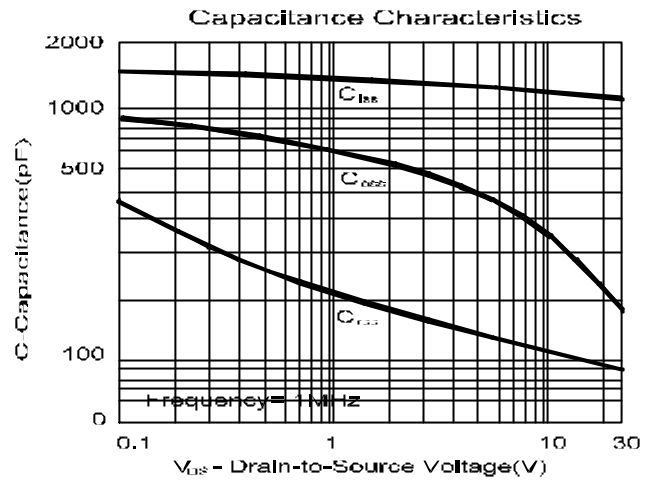
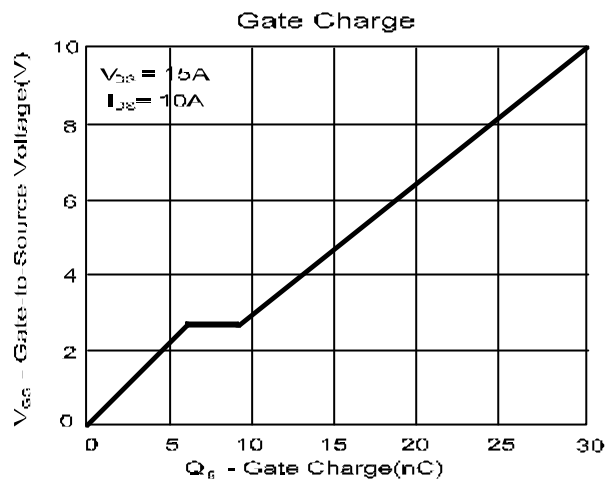


On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature





SOIC-8(D) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8	4.9	5.0	H	0.5	0.715	0.83
B	3.8	3.9	4.0	I	0.18	0.254	0.25
C	5.8	6.0	6.2	J		0.22	
D	0.38	0.445	0.51	K	0°	4°	8°
E		1.27		L			
F	1.35	1.55	1.75	M			
G	0.1	0.175	0.25	N			

