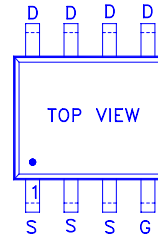
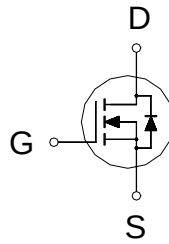


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60	55m Ω	5.5A



4 :GATE
5,6,7,8 :DRAIN
1,2,3 :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}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	5.5	A
	$T_C = 70\text{ }^{\circ}\text{C}$		4.5	
Pulsed Drain Current ¹		I_{DM}	20	
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	2.5	W
	$T_C = 70\text{ }^{\circ}\text{C}$		1.3	
Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^{\circ}\text{C}$

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 = 250μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.0	1.5	2.5	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 48V, V _{GS} = 0V			1	μA
		V _{DS} = 40V, V _{GS} = 0V, T _J = 55 °C			10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 5V, V _{GS} = 10V	20			A
On-State Drain-Source Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 4.5A		55	75	mΩ
		V _{GS} = 10V, I _D = 5.5A		42	55	
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 5.5A		14		S

DYNAMIC							
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz			650		pF
Output Capacitance	C _{oss}				80		
Reverse Transfer Capacitance	C _{rss}				35		
Total Gate Charge ²	Q _g	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 10V, I _D = 5.5A			12.5	18	nC
Gate-Source Charge ²	Q _{gs}				2.4		
Gate-Drain Charge ²	Q _{gd}				2.6		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 30V I _D ≅ 1A, V _{GS} = 10V, R _{GEN} = 6Ω			11	20	nS
Rise Time ²	t _r				8	18	
Turn-Off Delay Time ²	t _{d(off)}				19	35	
Fall Time ²	t _f				6	15	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _C = 25 °C)							
Continuous Current	I _S				1.3		A
Pulsed Current ³	I _{SM}				2.6		
Forward Voltage ¹	V _{SD}	I _F = I _S A, V _{GS} = 0V			1		V

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

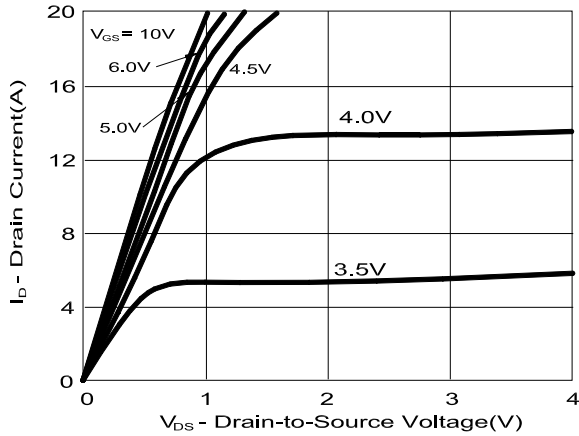
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

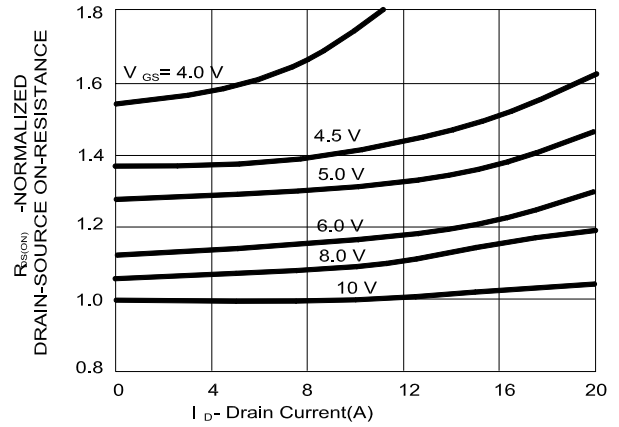
REMARK: THE PRODUCT MARKED WITH "P5506BVG", DATE CODE or LOT #

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

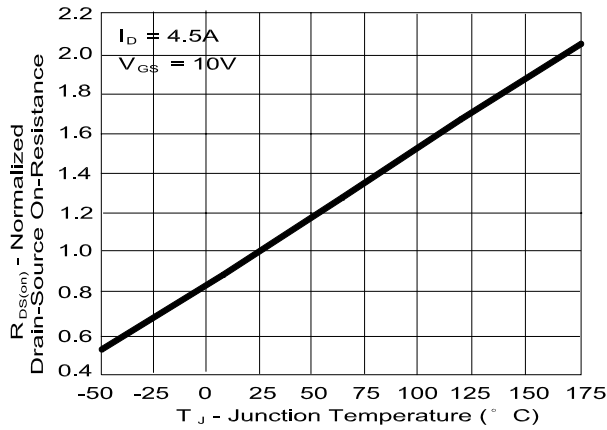
On-Region Characteristics



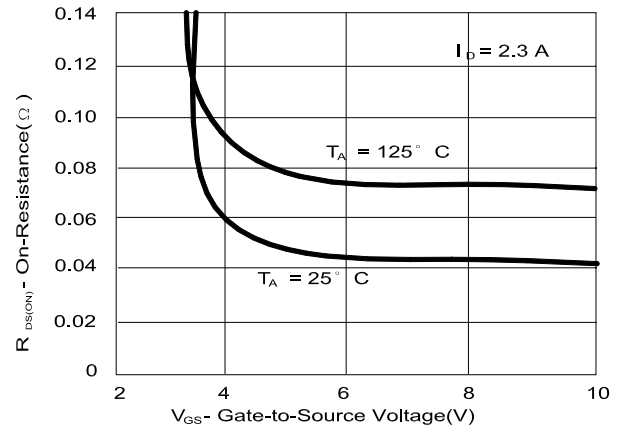
On-Resistance Variation with Drain Current and Gate Voltage



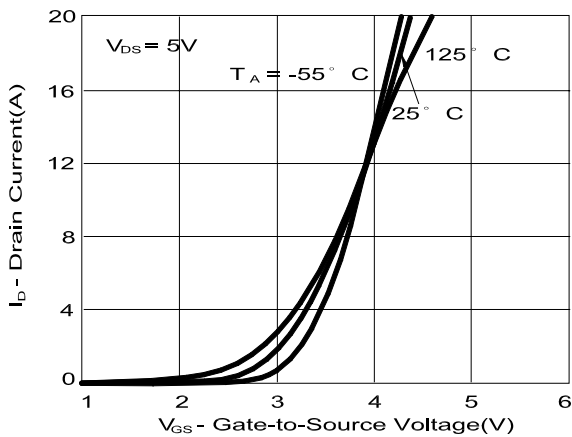
On-Resistance Variation with Temperature



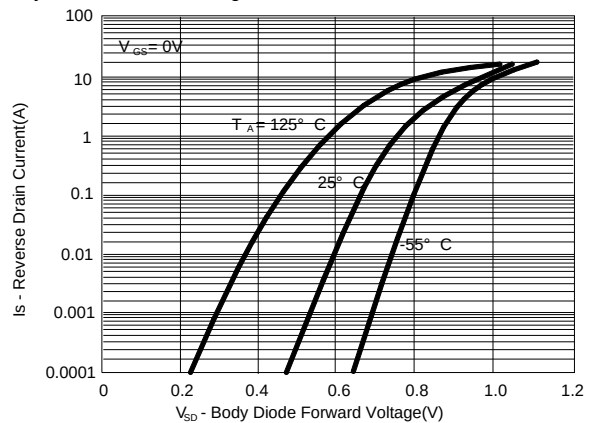
On-Resistance Variation with Gate-to-Source Voltage

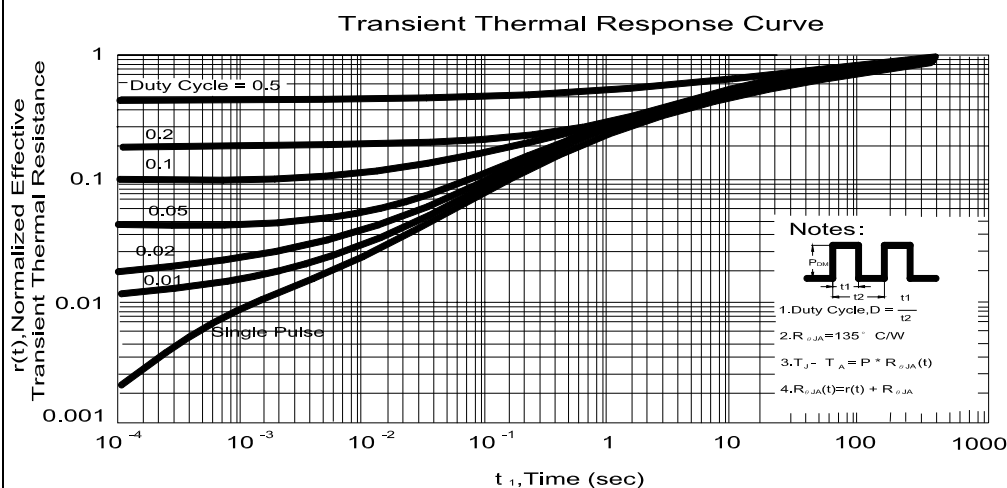
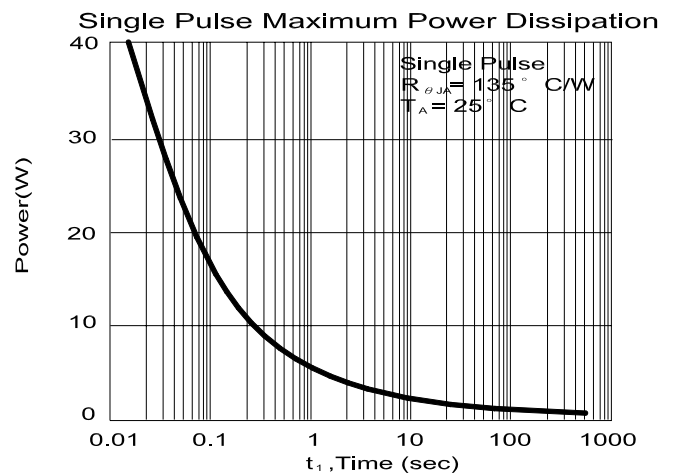
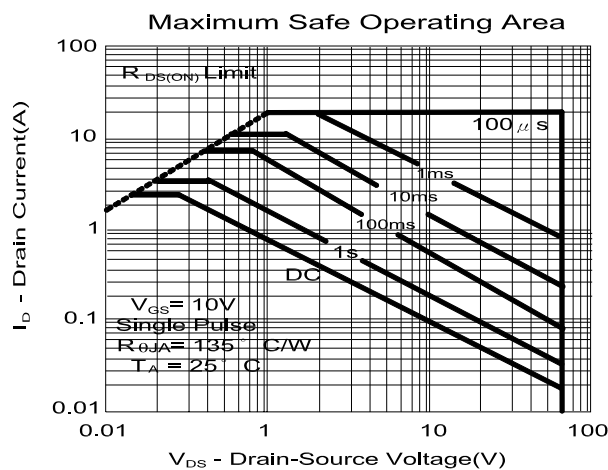
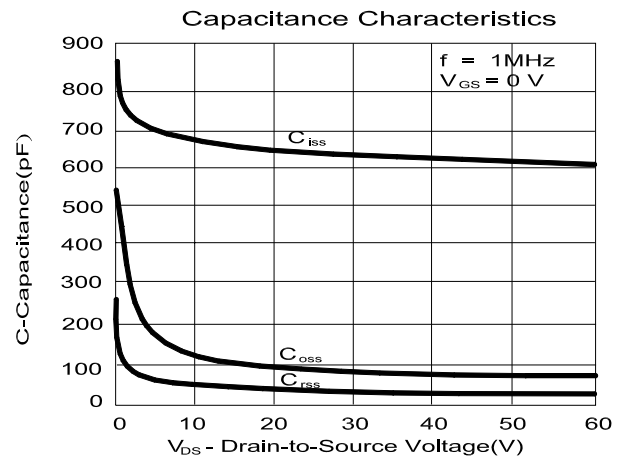
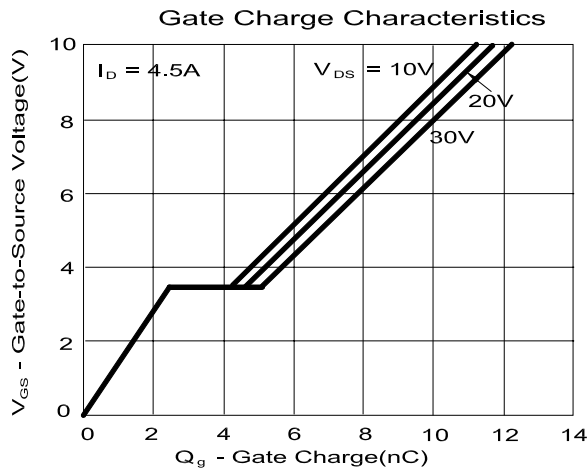


Transfer Characteristics



Body Diode Forward Voltage Variation with Source Current and 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			

