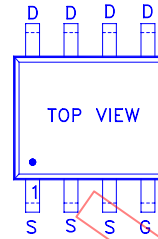
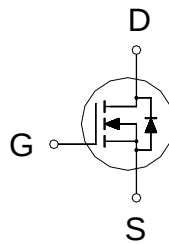


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	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	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0	1.5	2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48V, V_{GS} = 0V$			1	μA
		$V_{DS} = 40V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$			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	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} = 6 Ω			11	nS
Rise Time ²	t _r				8	
Turn-Off Delay Time ²	t _{d(off)}				19	
Fall Time ²	t _f				6	
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

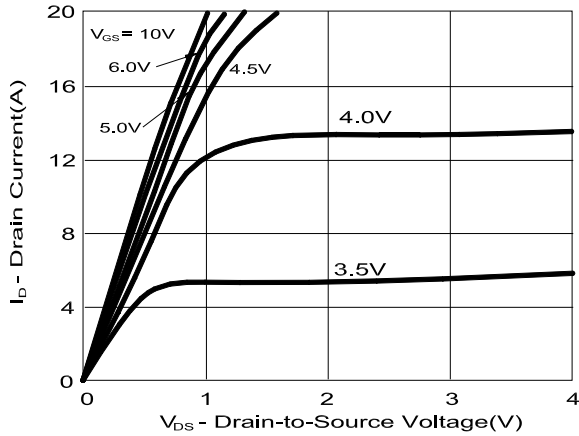
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

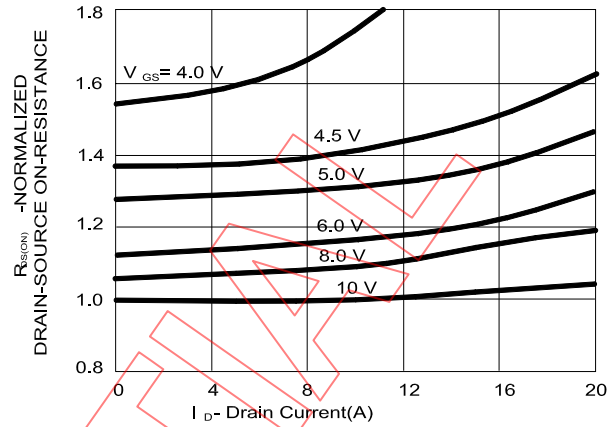
³Pulse width limited by maximum junction temperature.

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.

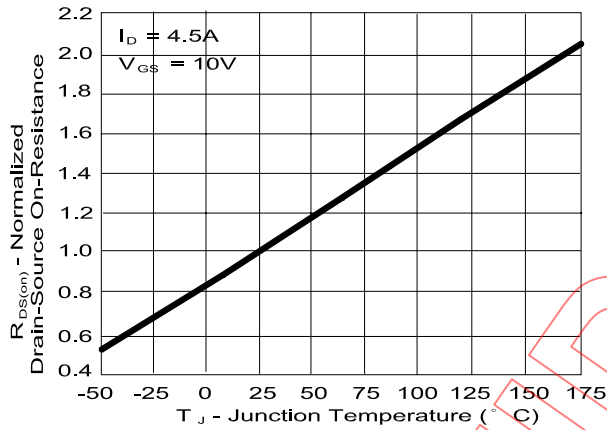
On-Region Characteristics



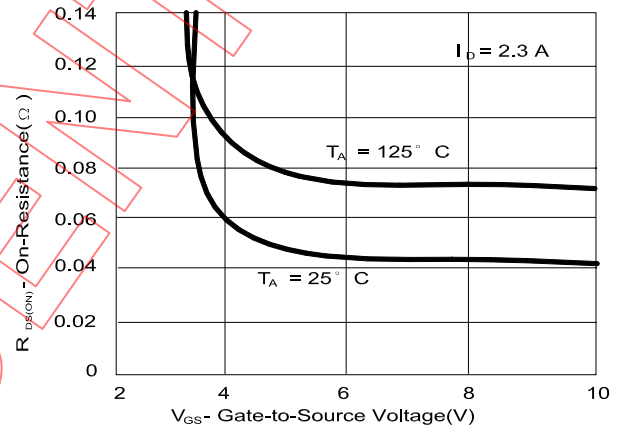
On-Resistance Variation with Drain Current and Gate Voltage



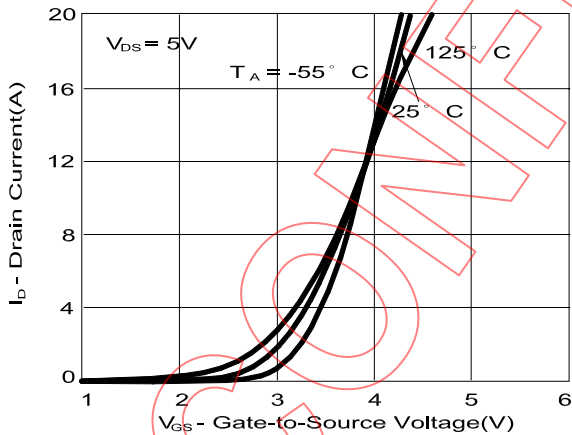
On-Resistance Variation with Temperature



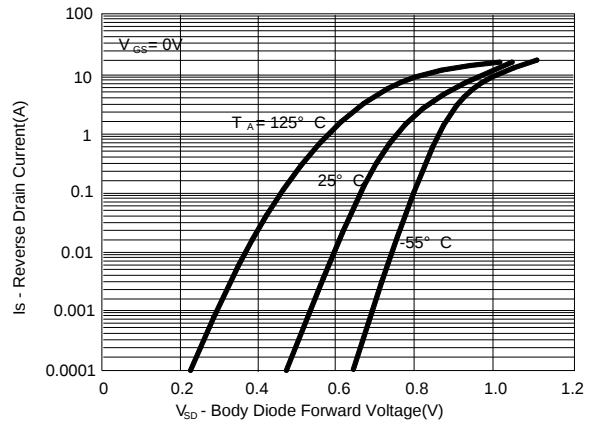
On-Resistance Variation with Gate-to-Source Voltage



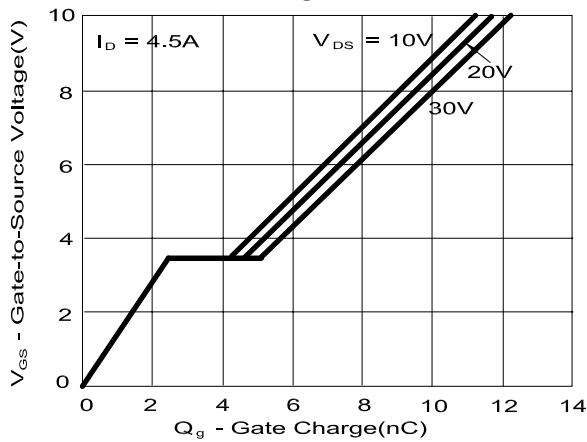
Transfer Characteristics



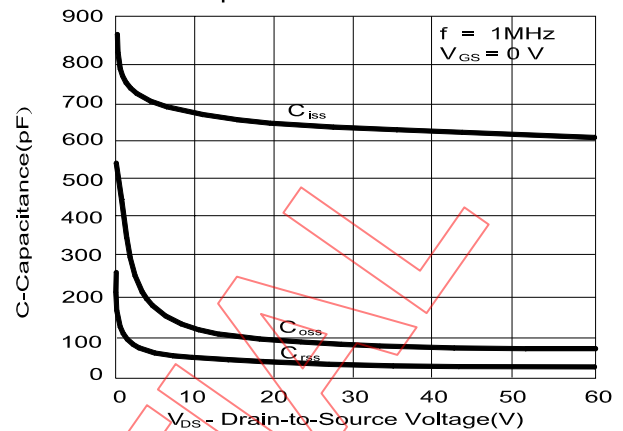
Body Diode Forward Voltage Variation with Source Current and Temperature



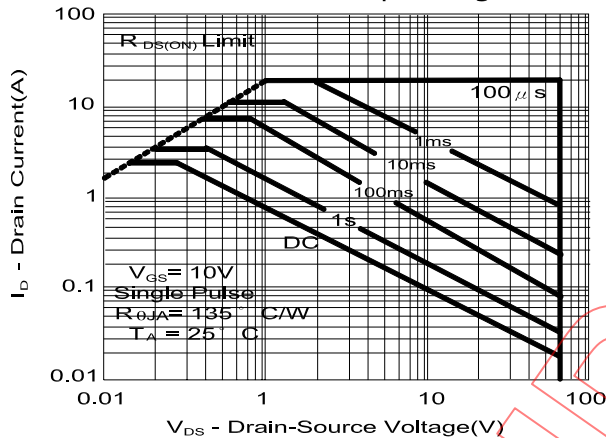
Gate Charge Characteristics



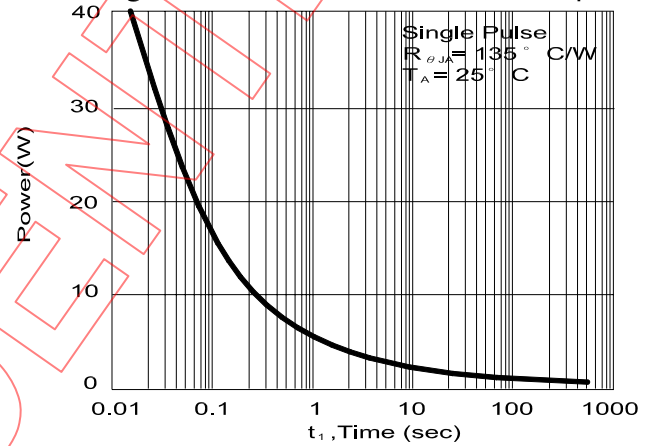
Capacitance Characteristics



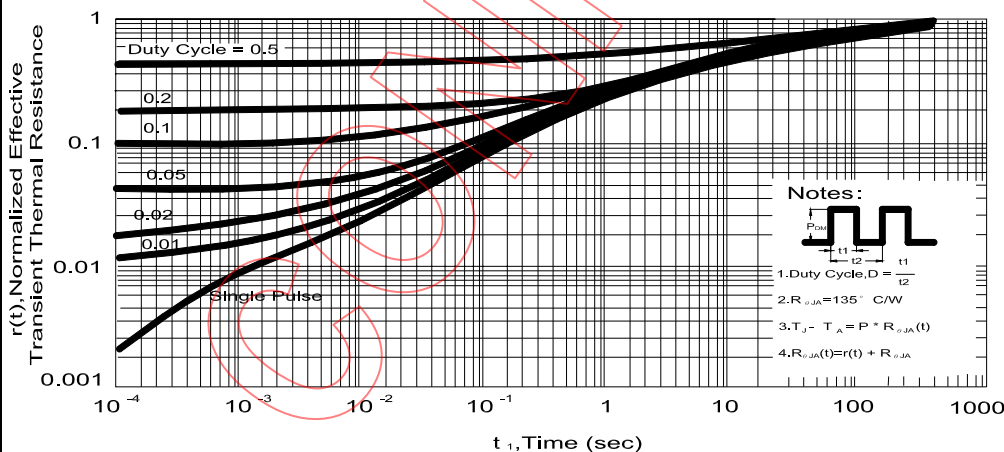
Maximum Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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			

