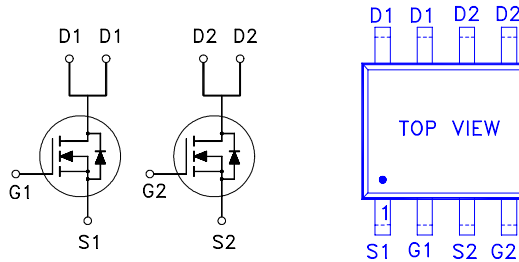


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30	20m	7A



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	I_D	$T_C = 25\text{ }^\circ\text{C}$	7
		$T_C = 70\text{ }^\circ\text{C}$	6
Pulsed Drain Current ¹	I_{DM}	40	A
Power Dissipation	P_D	$T_C = 25\text{ }^\circ\text{C}$	2
		$T_C = 70\text{ }^\circ\text{C}$	1.3
Junction & Storage Temperature Range	T_j, T_{stg}	-55 to 150	$^\circ\text{C}$
Lead Temperature (¹ / ₁₆ " from case for 10 sec.)	T_L	275	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$

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	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.7	1	1.4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{V}, V_{GS} = \pm 20\text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24\text{V}, V_{GS} = 0\text{V}$			1	μA
		$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}, T_J = 55\text{ }^\circ\text{C}$			10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5\text{V}, V_{GS} = 10\text{V}$	25			A

Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 2.5V, I _D = 5A	40	48	m
		V _{GS} = 4.5V, I _D = 6A	23	30	
		V _{GS} = 10V, I _D = 7A	18	25	
Forward Transconductance ¹	g _{fs}	V _{DS} = 15V, I _D = 5A	16		S
DYNAMIC					
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 15V, f = 1MHz	830		pF
Output Capacitance	C _{oss}		185		
Reverse Transfer Capacitance	C _{rss}		80		
Total Gate Charge ²	Q _g	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 5V, I _D = 7A	9	13	nC
Gate-Source Charge ²	Q _{gs}		2.8		
Gate-Drain Charge ²	Q _{gd}		3.1		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 15V I _D ≅ 1A, V _{GS} = 10V, R _{GEN} = 6	5.7		nS
Rise Time ²	t _r		10		
Turn-Off Delay Time ²	t _{d(off)}		18		
Fall Time ²	t _f		5		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_C = 25 °C)					
Continuous Current	I _S			3	A
Pulsed Current ³	I _{SM}			6	
Forward Voltage ¹	V _{SD}	I _F = 1A, V _{GS} = 0V		1	V
Reverse Recovery Time	t _{rr}	I _F = 5A, di _F /dt = 100A / μS	15.5		nS
Reverse Recovery Charge	Q _{rr}		7.9		nC

¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

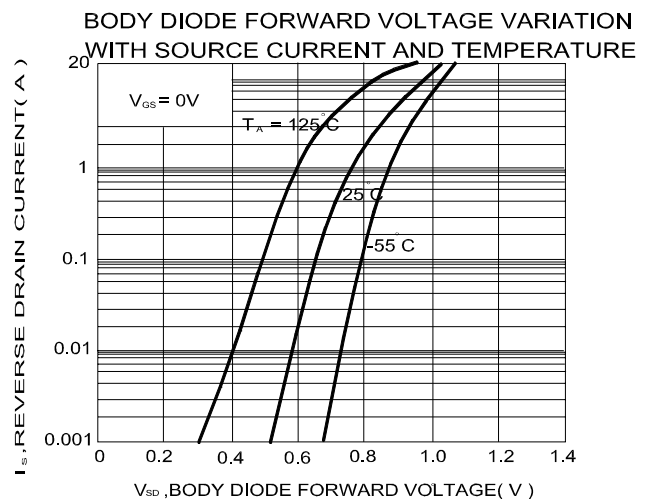
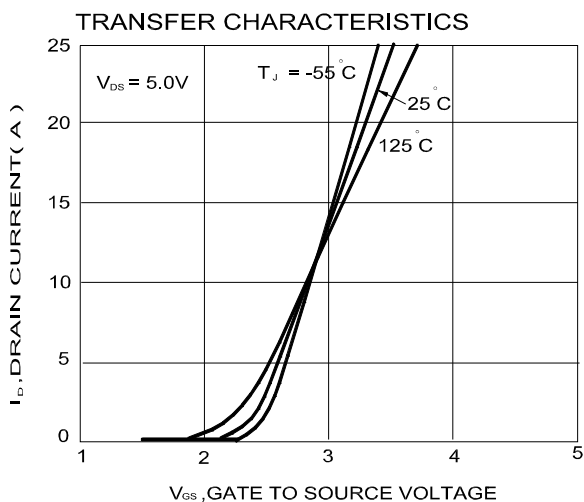
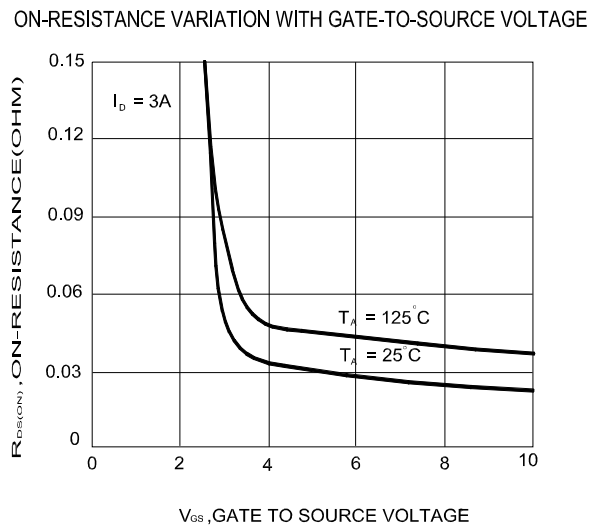
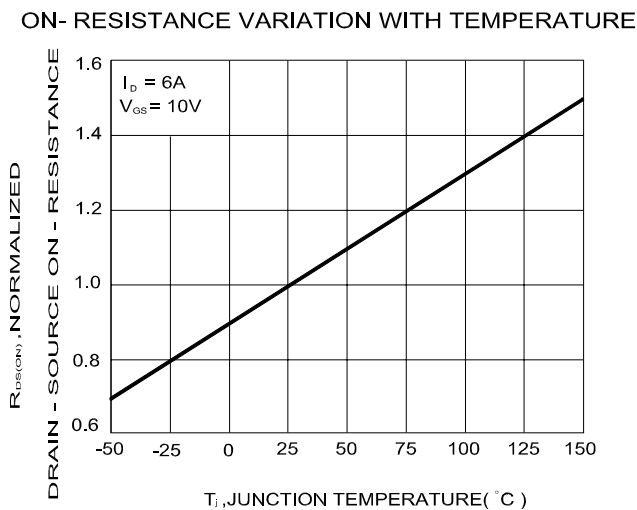
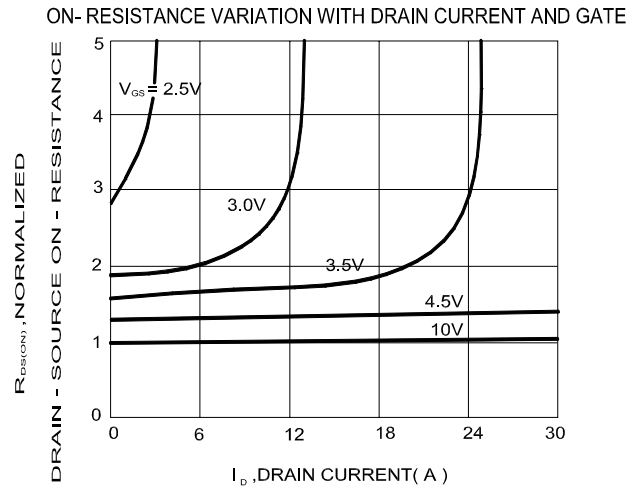
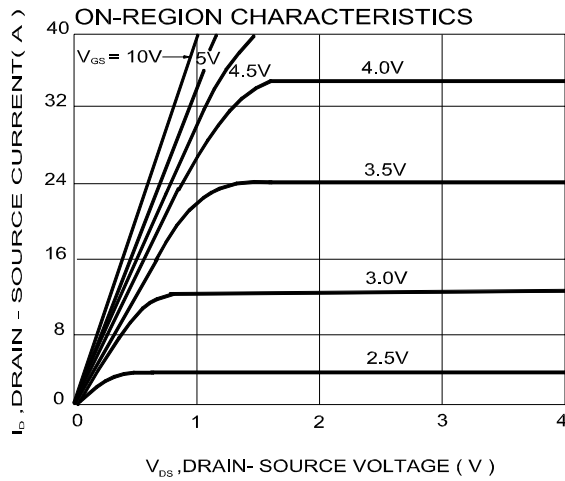
²Independent of operating temperature.

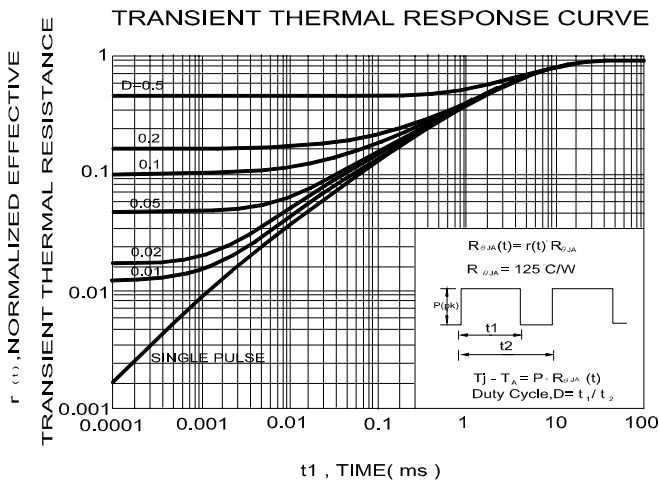
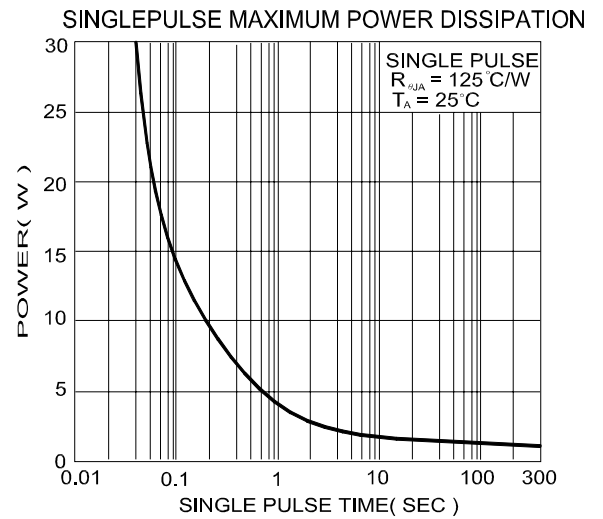
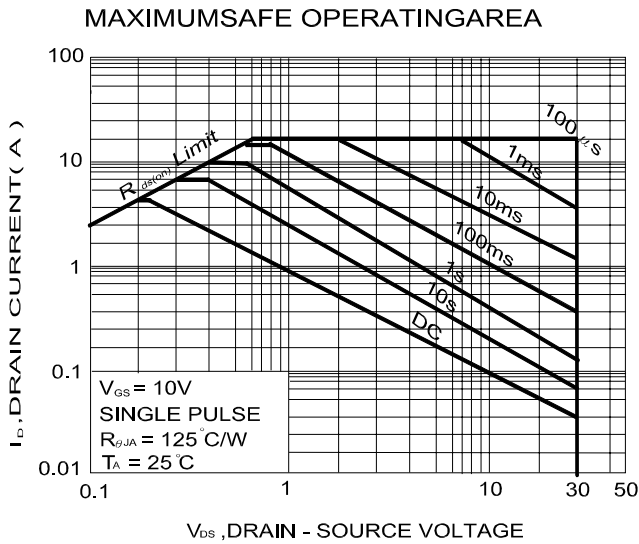
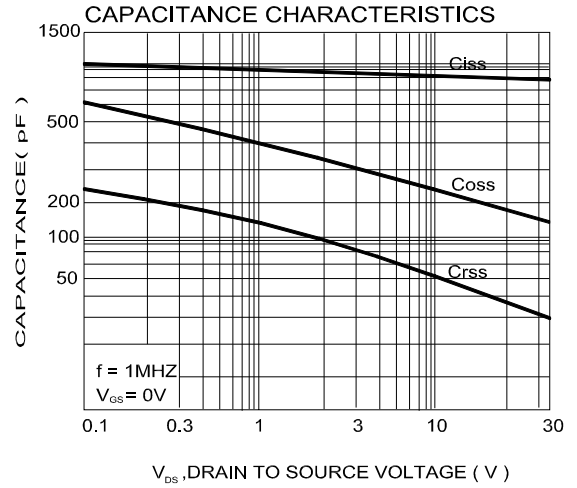
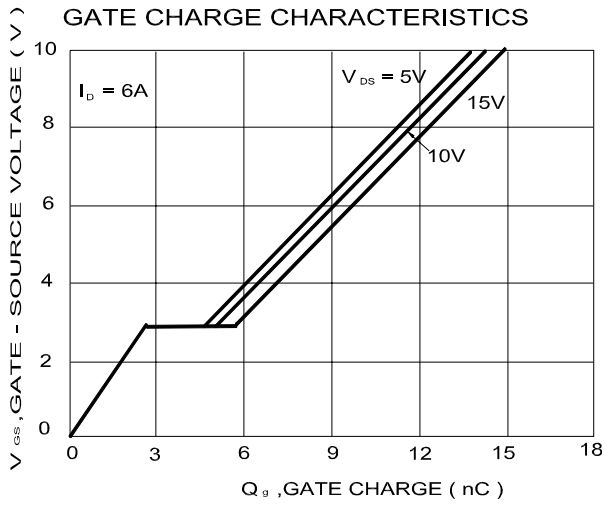
³Pulse width limited by maximum junction temperature.

REMARK: THE PRODUCT MARKED WITH "P07D03LVG", DATE CODE or LOT #

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

TYPICAL PERFORMANCE CHARACTERISTICS





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			

