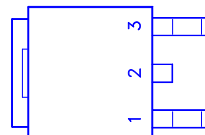
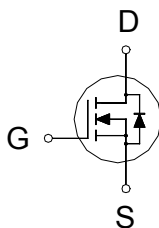


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
60	55mΩ	22A



1.GATE  
2.DRAIN  
3.SOURCE

**ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub> = 25 °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 <sub>C</sub> = 25 °C	$I_D$	22	A
	T <sub>C</sub> = 70 °C		18	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	80	
Power Dissipation	T <sub>C</sub> = 25 °C	$P_D$	50	W
	T <sub>C</sub> = 70 °C		32	
Operating Junction & Storage Temperature Range		T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C
Lead Temperature ( <sup>1</sup> / <sub>16</sub> " from case for 10 sec.)		T <sub>L</sub>	275	

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{θJC}$		2.5	°C / W
Junction-to-Ambient	$R_{θJA}$		55	°C / W

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

**ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = 25 °C, Unless Otherwise Noted)**

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.5	2.5	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±250	nA
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 <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	22			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 8A$		59	75	mΩ
		$V_{GS} = 10V, I_D = 10A$		42	55	

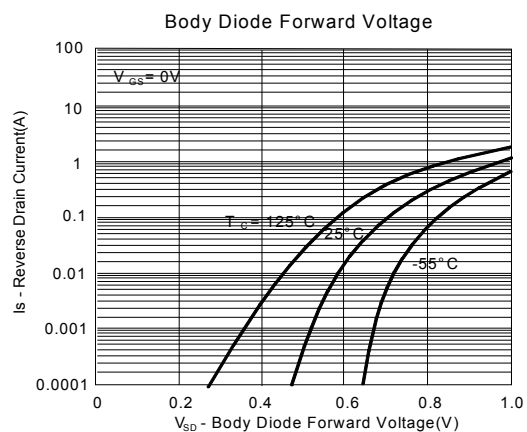
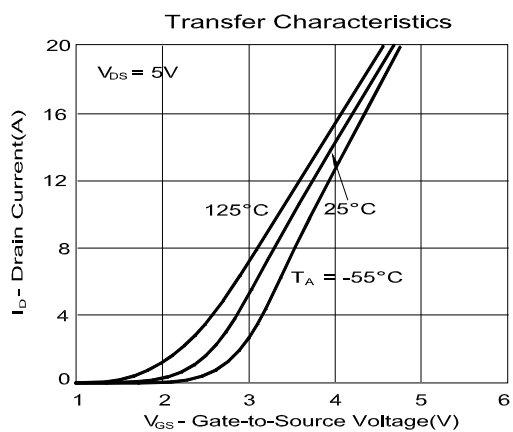
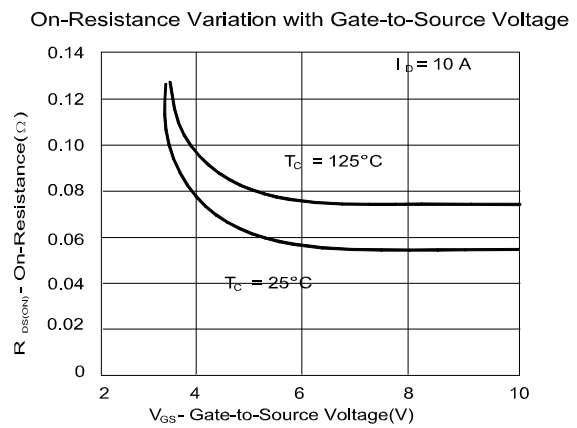
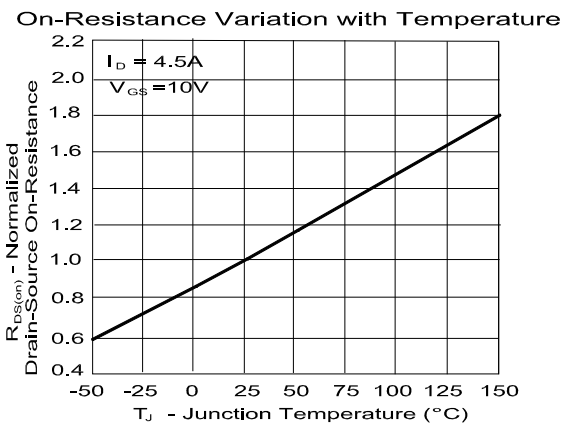
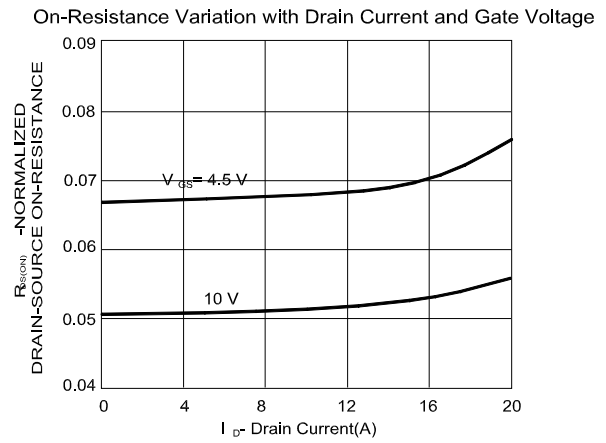
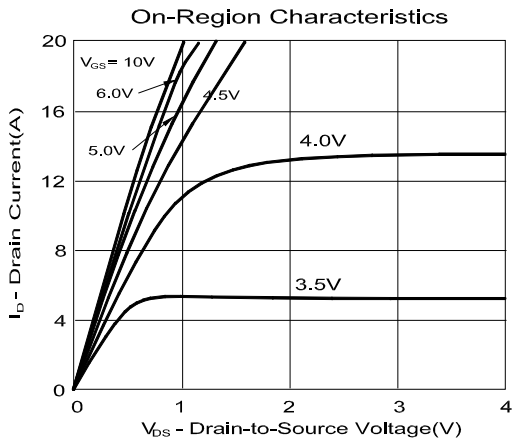
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 10A$		14		S
---------------------------------------	----------	---------------------------	--	----	--	---

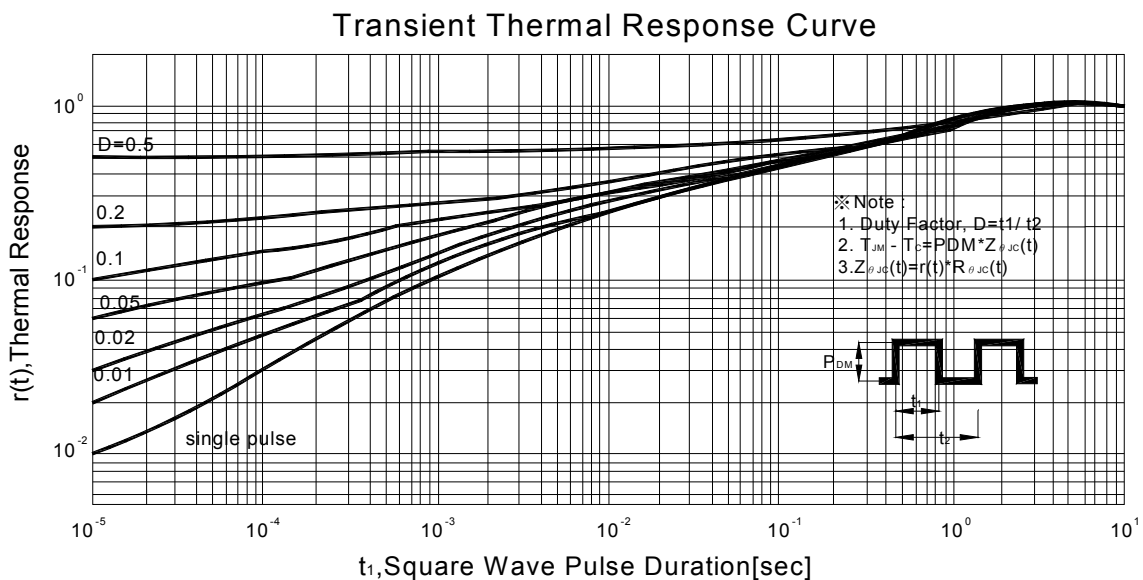
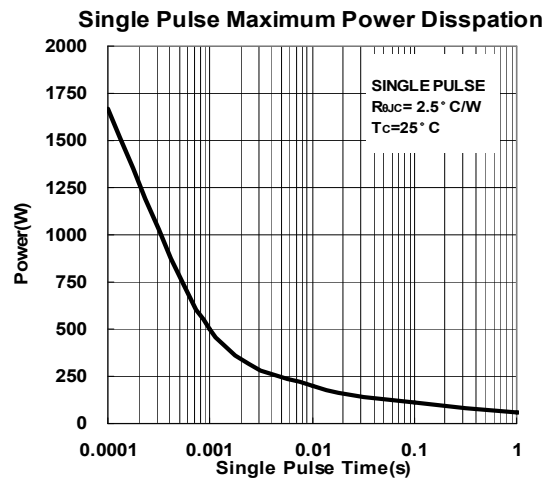
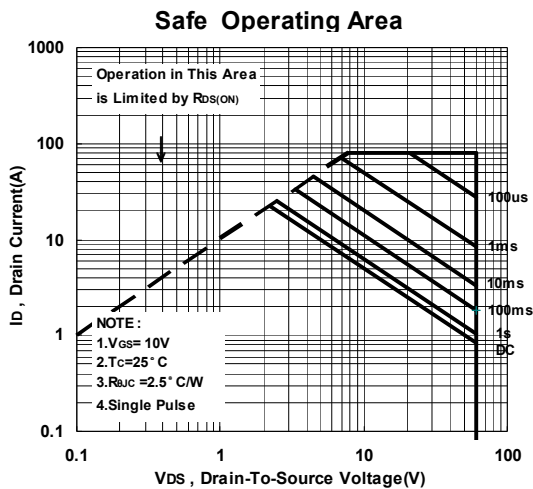
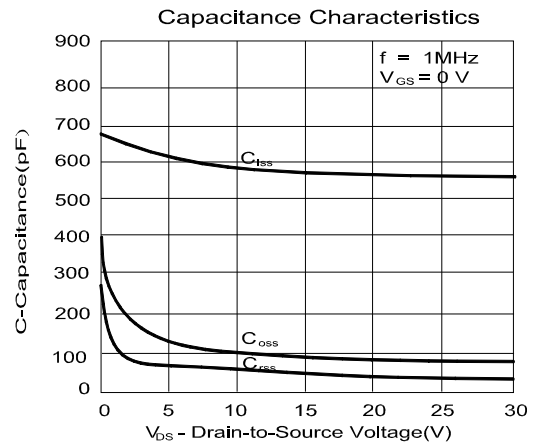
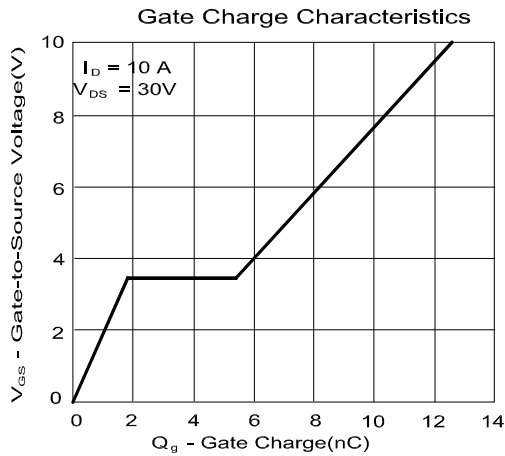
DYNAMIC						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$			587	pF
Output Capacitance	$C_{oss}$				80	
Reverse Transfer Capacitance	$C_{rss}$				46	
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V, I_D = 10A$			12.5	nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$				1.8	
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$				3.7	
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = 30V, I_D \cong 1A, V_{GS} = 10V, R_{GEN} = 6\Omega$			11	nS
Rise Time <sup>2</sup>	$t_r$				8	
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$				19	
Fall Time <sup>2</sup>	$t_f$				6	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ( $T_c = 25^\circ C$ )						
Continuous Current	$I_S$				22	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 1A, V_{GS} = 0V$			1	V

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

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

**REMARK: THE PRODUCT MARKED WITH “P5506BDG”, DATE CODE or LOT #**





**TO-252 (DPAK) MECHANICAL DATA**

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	8.9	9.5	10.4	H	0.8	1.27	2.03
B	2.19	2.3	2.435	I	6.35	6.6	6.8
C	0.35	0.5	0.65	J	4.8	5.34	5.5
D	0.89		1.5	K	0.5		1.5
E	0.35		0.65	L	0.4	0.76	0.89
F	0.0		0.23	M	3.96		5.18
G	5.4		6.2	N			

