Shantou Huashan Electronic Devices Co.,Ltd.

N-Channel MOSFET

HFP75N08

APPLICATIONSL

Low Voltage high-Speed Switching.

ABSOLUTE MAXIMUM RATINGS（T_a=25℃）

T_{stg}——Storage Temperature·······························-55~175℃

T_j ——Operating Junction Temperature ·························150℃

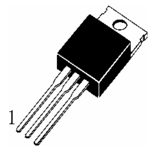
P_D —— Allowable Power Dissipation（T_c=25℃）················173W

V_{DSS} —— Drain-Source Voltage ······························ 80V

V_{GSS} —— Gate-Source Voltage ·······························±20V

I_D —— Drain Current（T_c=25℃）·······························75A

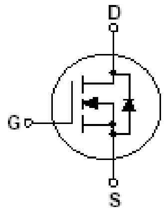
TO-220



1—G

2—D

3—S



ELECTRICAL CHARACTERISTICS（T_a=25℃）

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{DSS}	Drain-Source Breakdown Voltage	80			V	I_D=250 μ A ,V_{GS}=0V
I_{DSS}	Zero Gate Voltage Drain Current			10	μ A	V_{DS} = 80V， V_{GS}=0
I_{GSS}	Gate –Source Leakage Current			±100	nA	V_{GS}=±20V , V_{DS} =0V
$V_{GS(th)}$	Gate Threshold Voltage	2.0		4.0	V	V_{DS} = V_{GS} , I_D =250 μ A
$R_{DS(on)}$	Static Drain-Source On-Resistance		0.011	0.014	Ω	V_{GS}=10V, I_D =37.5A
Ciss	Input Capacitance		2600	3380	pF	V_{DS} =25V, V_{GS}=0,f=1MHz
Coss	Output Capacitance		940	1220	pF	
Crss	Reverse Transfer Capacitance		210	275	pF	
$t_{d(on)}$	Turn - On Delay Time		30	70	nS	V_{DD} =40V, I_D =75A R_G= 25 Ω*
tr	Rise Time		225	460	nS	
$t_{d(off)}$	Turn - Off Delay Time		165	340	nS	
t_f	Fall Time		155	320	nS	
Qg	Total Gate Charge		80	105	nC	V_{DS} =48V V_{GS}=10V I_D=50A*
Qgs	Gate–Source Charge		15		nC	
Qgd	Gate–Drain Charge		32		nC	
Is	Continuous Source Current			75	A	
V_{SD}	Diode Forward Voltage			1.5	V	I_S =75A , V_{GS}=0
Rth (j-c)	Thermal Resistance，Junction-to-Case			0.87	℃/W	

*Pulse Test：Pulse Width≤300 μ s，Duty Cycle≤2%

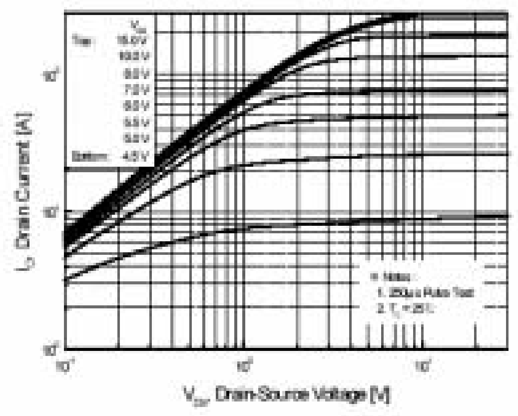


Figure 1. On-Region Characteristics

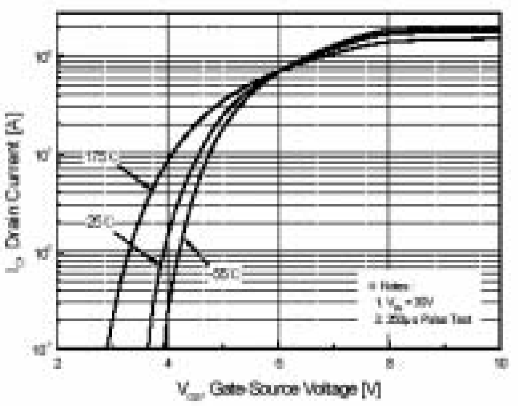


Figure 2. Transfer Characteristics

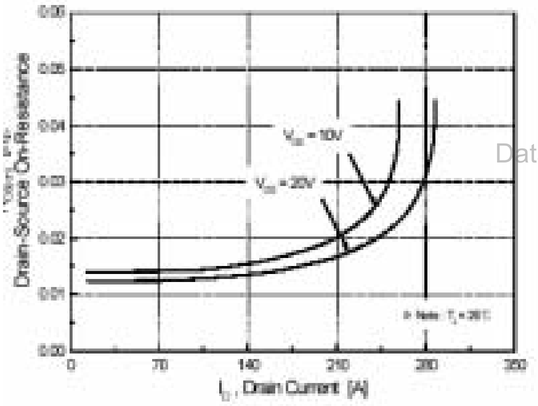


Figure 3. On-Resistance Variation vs. Drain Current and Gate Voltage

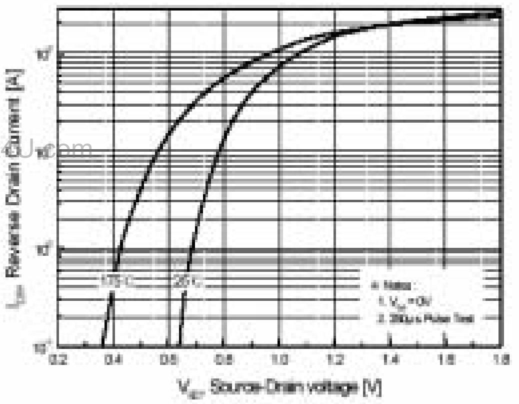


Figure 4. Body Diode Forward Voltage Variation vs. Source Current

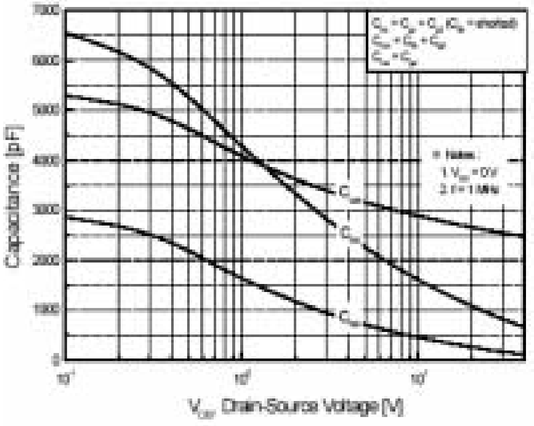


Figure 5. Capacitance Characteristics

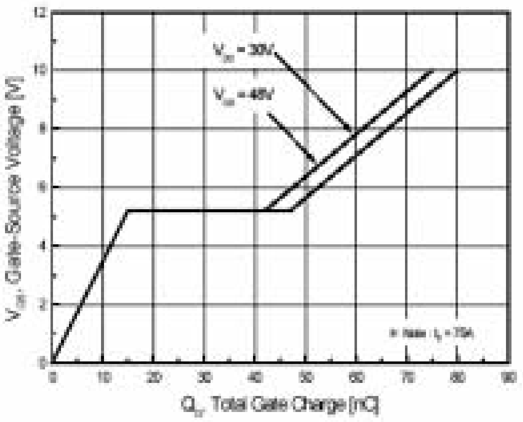


Figure 6. Gate Charge Characteristics

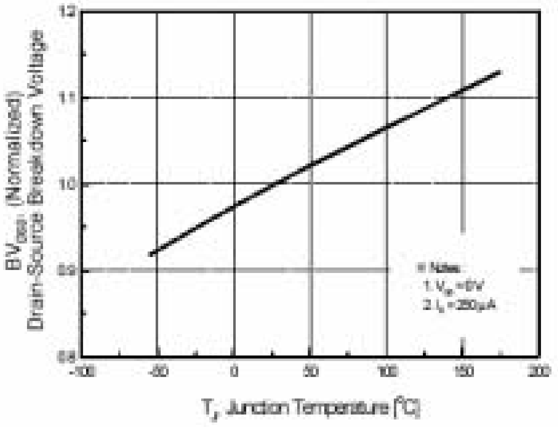


Figure 7. Breakdown Voltage Variation vs. Temperature

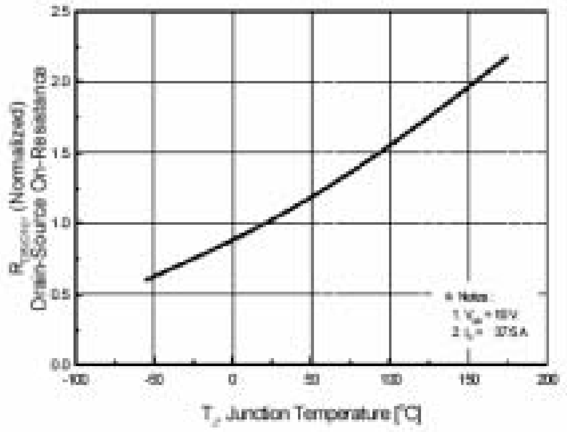


Figure 8. On-Resistance Variation vs. Temperature

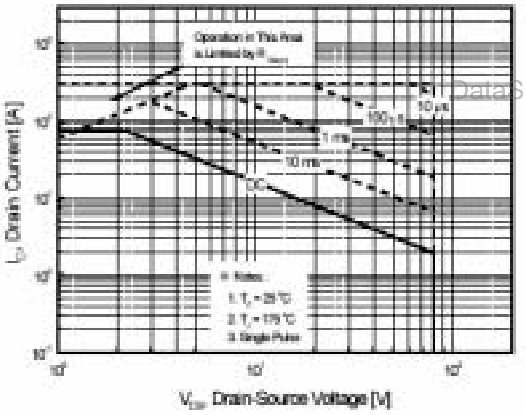


Figure 9. Maximum Safe Operating Area

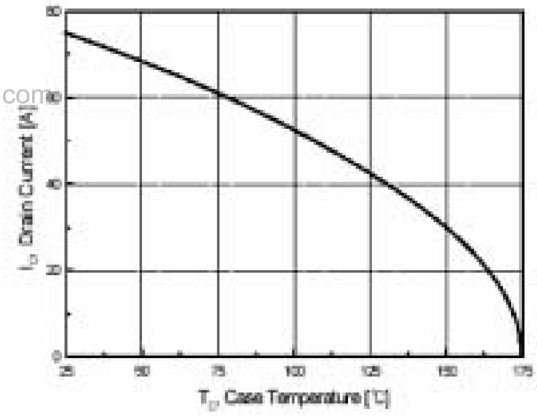


Figure 10. Maximum Drain Current vs. Case Temperature

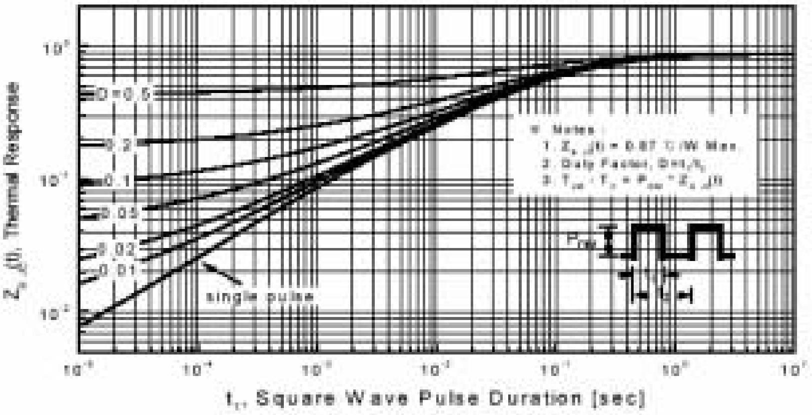
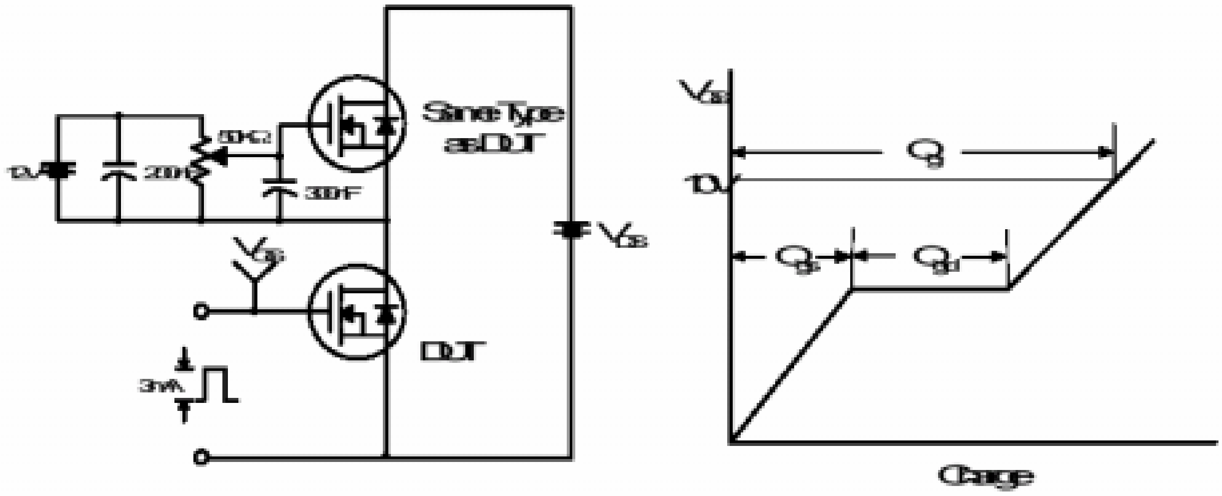
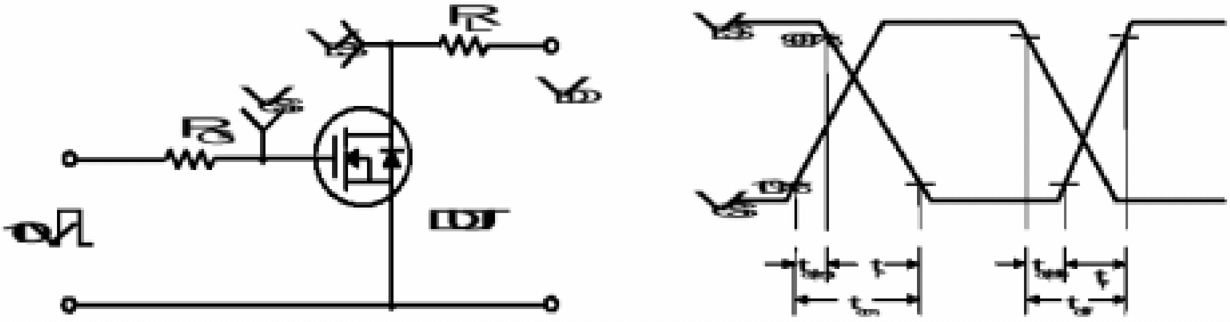


Figure 11. Transient Thermal Response Curve

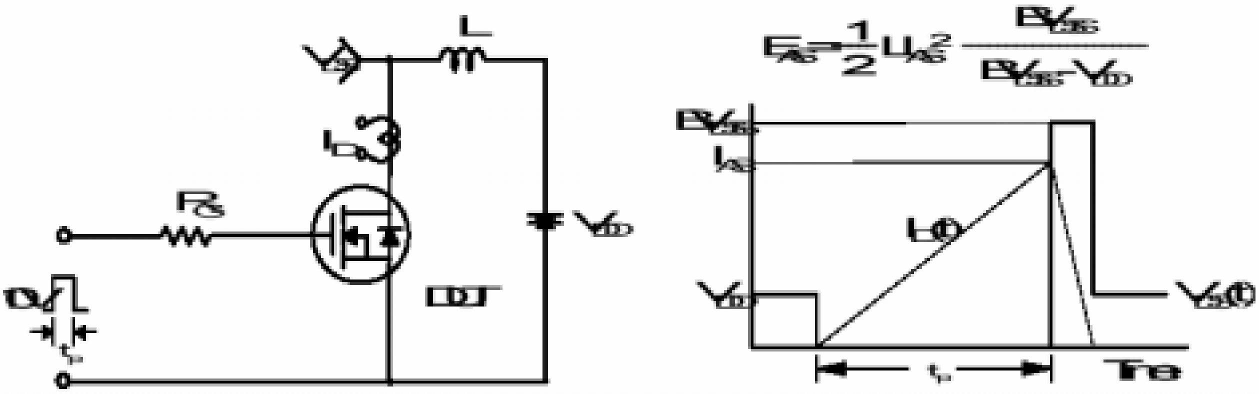
Gate Charge Test Circuit & Waveform



Resistive Switching Test Circuit & Waveforms



Unclamped Inductive Switching Test Circuit & Waveforms



Peak Diode Recovery dv/dt Test Circuit & Waveforms