



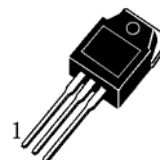
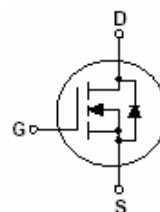
■ 主要用途

高压高速电源开关。

■ 极限值 ($T_a=25^{\circ}\text{C}$) T_{stg} ——贮存温度..... $-55\sim 150^{\circ}\text{C}$ T_j ——结温..... 150°C V_{DSS} ——漏极—源极电压..... 600V V_{GS} ——栅极—源极电压..... $\pm 30\text{V}$ I_{D} ——漏极电流 ($T_c=25^{\circ}\text{C}$)..... 12A I_{DM} ——漏极电流 (脉冲) (注 1)..... 48A P_{D} ——耗散功率 ($T_c=25^{\circ}\text{C}$)..... 300W ■ 电参数 ($T_a=25^{\circ}\text{C}$)

■ 外形图及引脚排列

TO-3P

1—栅 极 G
2—漏 极 D
3—源 极 S

参数符号	符 号 说 明	最小值	典型值	最大值	单 位	测 试 条 件
BVDSS	漏—源极击穿电压	600			V	$I_{\text{D}}=250\mu\text{A}$, $V_{\text{GS}}=0$
IDSS	零栅压漏极电流			10	μA	$V_{\text{DS}}=600\text{V}$, $V_{\text{GS}}=0$
IGSS	栅极泄漏电流			± 100	nA	$V_{\text{GS}}=\pm 30\text{V}$, $V_{\text{DS}}=0$
VGS(th)	栅—源极开启电压	2.0		4.0	V	$V_{\text{DS}}=V_{\text{GS}}$, $I_{\text{D}}=250\mu\text{A}$
RDS(on)	漏—源极导通电阻			0.65	Ω	$V_{\text{GS}}=10\text{V}$, $I_{\text{D}}=6\text{A}$
Ciss	输入电容		1760		pF	$V_{\text{DS}}=25\text{V}$, $V_{\text{GS}}=0$, $f=1\text{MHz}$
Coss	输出电容		182		pF	
Crss	反向传输电容		21		pF	
Td(on)	导通延迟时间		30		ns	$V_{\text{DD}}=300\text{V}$, $I_{\text{D}}=12\text{A}$ (峰值), $R_{\text{G}}=25\Omega$ (注 2)
Tr	上升时间		85		ns	
Td(off)	断开延迟时间		155		ns	
Tf	下降时间		90		ns	$V_{\text{DS}}=400\text{V}$ $V_{\text{GS}}=10\text{V}$, $I_{\text{D}}=12\text{A}$ (注 2)
Qg	栅极总电荷		48		nC	
Qgs	栅极—源极电荷		8.5		nC	
Qgd	栅极—漏极电荷		21		nC	
IS	源极—漏极二极管正向电流			12	A	
VSD	源极—漏极二极管导通电压			1.4	V	$I_{\text{S}}=12\text{A}$, $V_{\text{GS}}=0$
Rth(j-c)	热阻			0.42	$^{\circ}\text{C}/\text{W}$	结到外壳

*注 1: 漏极电流受最大结温限制。

*注 2: 脉冲测试, 宽度 $\leq 300\mu\text{S}$, 占空比 $\leq 2\%$



■ 典型特性曲线

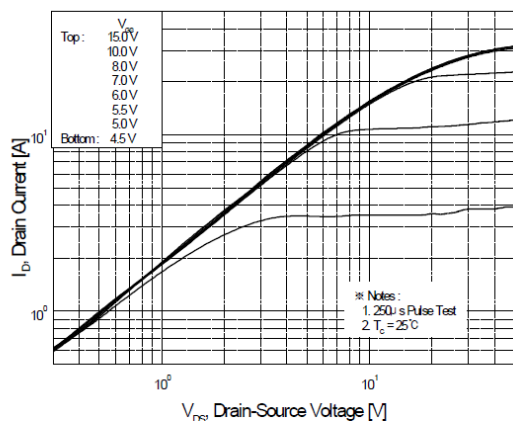


Figure 1. On-Region Characteristics

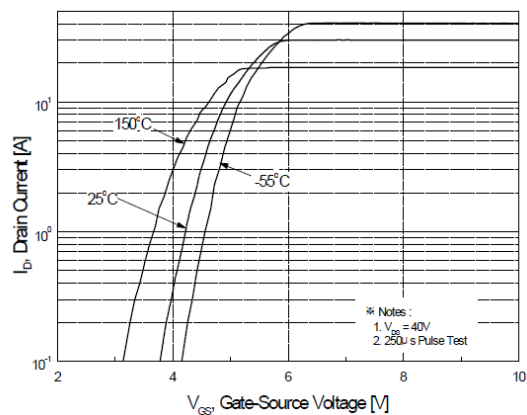


Figure 2. Transfer Characteristics

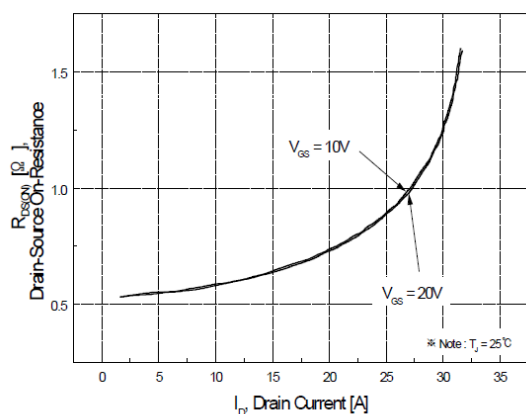


Figure 3. On-Resistance Variation vs Drain Current and Gate Voltage

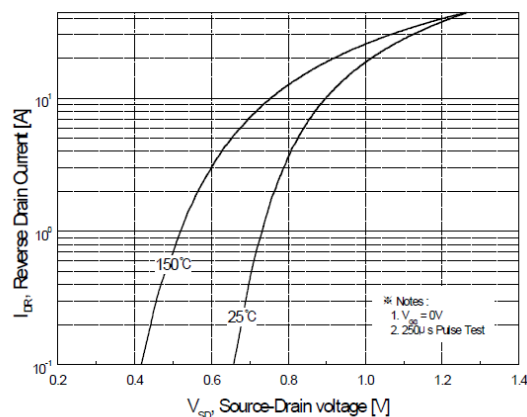


Figure 4. Body Diode Forward Voltage Variation with Source Current and Temperature

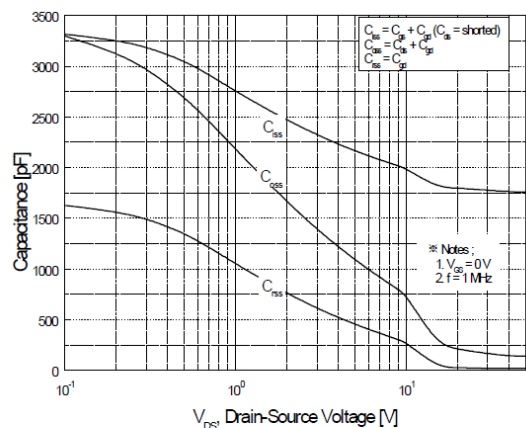


Figure 5. Capacitance Characteristics

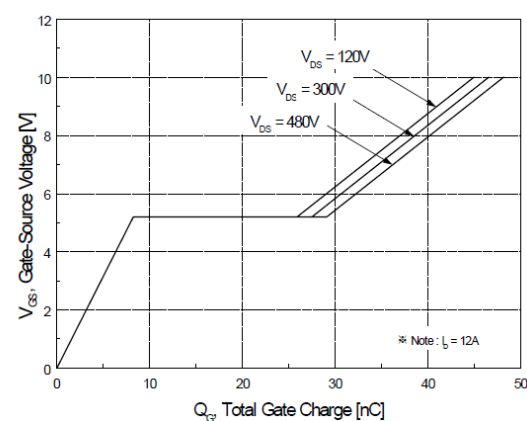


Figure 6. Gate Charge Characteristics



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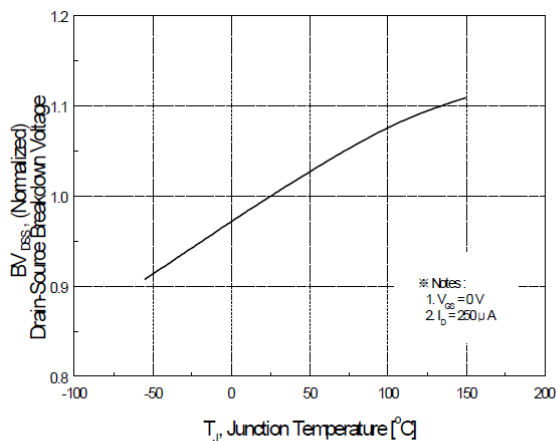


Figure 7. Breakdown Voltage Variation vs Temperature

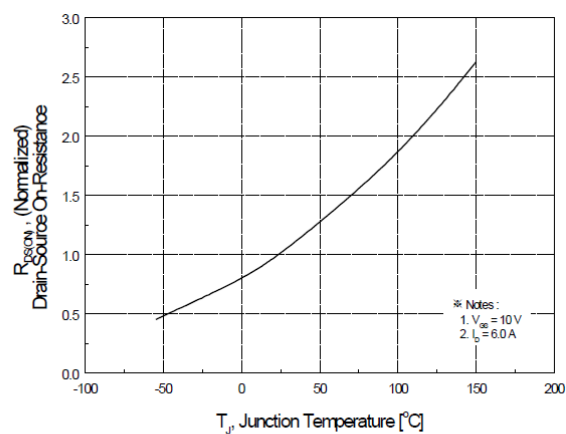


Figure 8. On-Resistance Variation vs Temperature

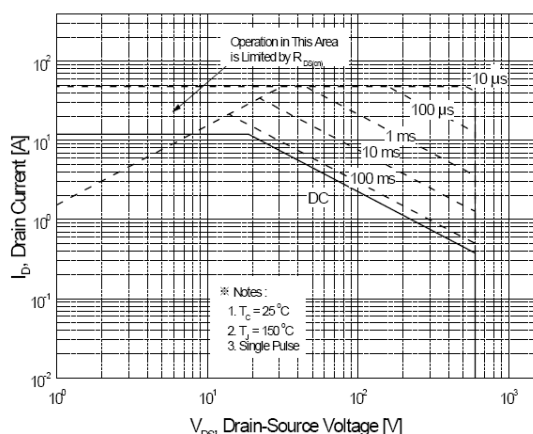


Figure 9. Maximum Safe Operating Area

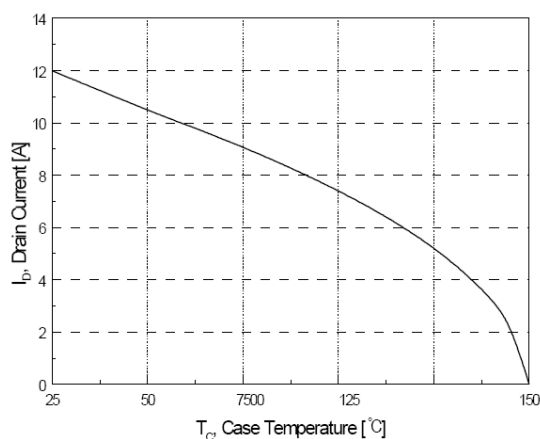


Figure 10. Maximum Drain Current vs Case Temperature

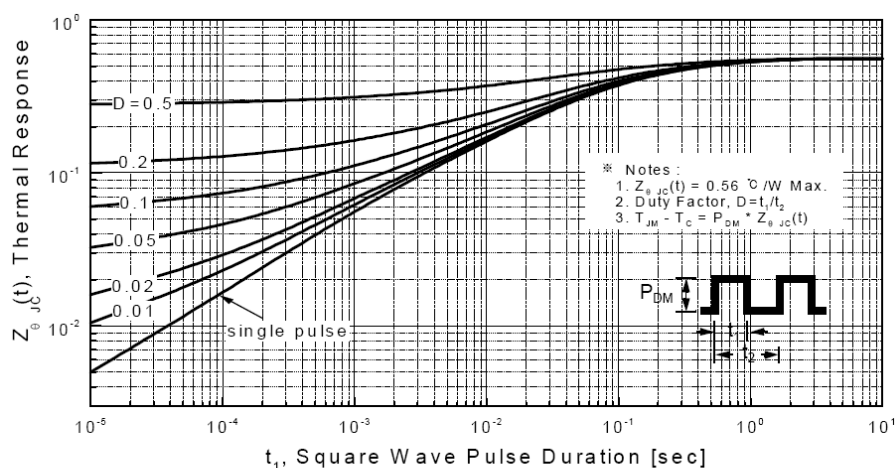
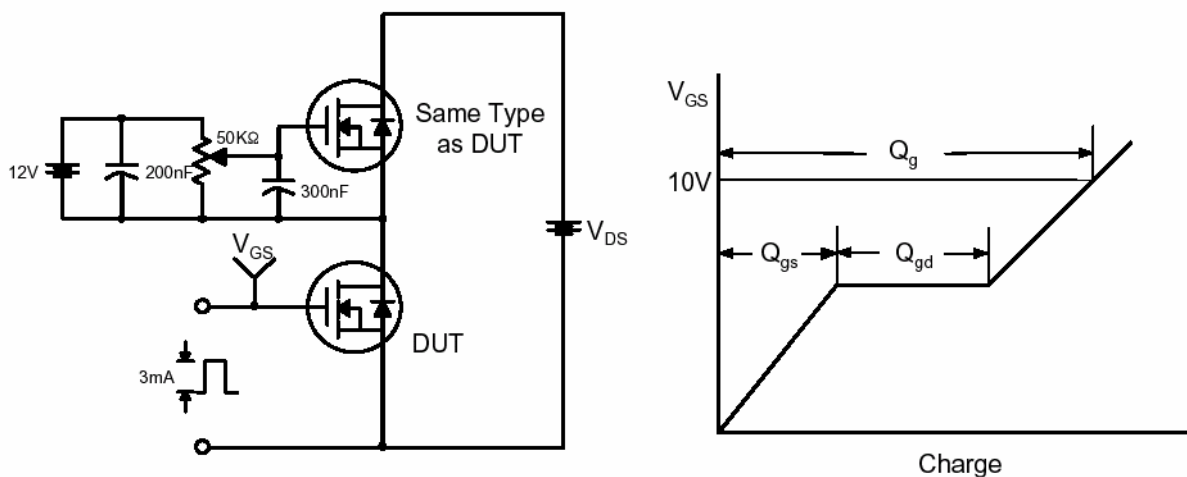


Figure 11. Transient Thermal Response Curve

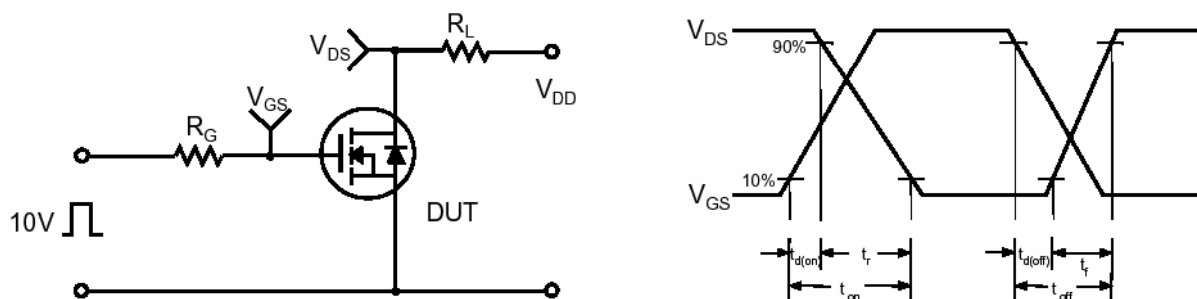


■ 典型特性曲线

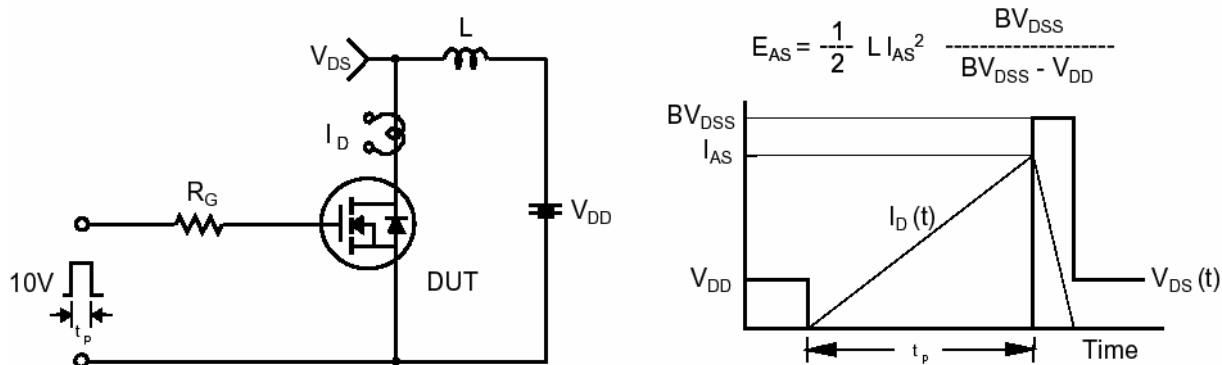
栅极存储电荷测试电路及波形图



开关时间测试电路及波形图



雪崩能量(E_{AS})测试电路及波形图





■ 典型特性曲线

二极管峰值电压上升率(dv/dt)测试电路及波形图

