



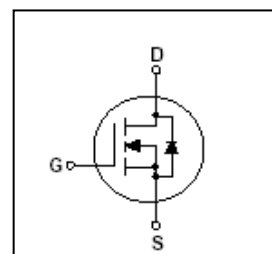
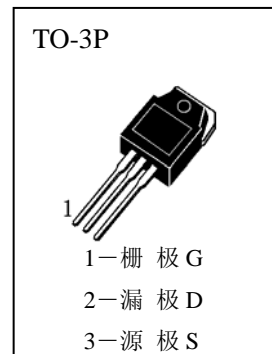
■ 主要用途

高压高速电源开关。

■ 极限值 ( $T_a=25^{\circ}\text{C}$ )

$T_{stg}$	——贮存温度	.....	-55~150 $^{\circ}\text{C}$
$T_j$	——结温	.....	150 $^{\circ}\text{C}$
$V_{DSS}$	——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 ( $T_c=25^{\circ}\text{C}$ )	.....	20A
$I_{DM}$	——漏极电流 (脉冲) (注 1)	.....	80A
$P_D$	——耗散功率 ( $T_c=25^{\circ}\text{C}$ )	.....	320W

■ 外形图及引脚排列



■ 电参数 ( $T_a=25^{\circ}\text{C}$ )

参数符号	符号说明	最小值	典型值	$R_{DS(on)}$	单位	测试条件
BVDSS	漏—源极击穿电压	600			V	$I_D=250\mu\text{A}$ , $V_{GS}=0$
IDSS	零栅压漏极电流			10	$\mu\text{A}$	$V_{DS}=600\text{V}$ , $V_{GS}=0$
IGSS	栅极泄漏电流			$\pm 100$	nA	$V_{GS}=\pm 30\text{V}$ , $V_{DS}=0$
VGS (th)	栅—源极开启电压	2.0	3.0	4.0	V	$V_{DS}=V_{GS}$ , $I_D=250\mu\text{A}$
RDS (on)	漏—源极导通电阻		0.26	0.32	$\Omega$	$V_{GS}=10\text{V}$ , $I_D=10\text{A}$
Ciss	输入电容		3200		pF	} $V_{DS}=25\text{V}$ , $V_{GS}=0$ , $f=1\text{MHz}$
Coss	输出电容		410		pF	
Crss	反向传输电容		41		pF	
Td (on)	导通延迟时间		60		ns	} $V_{DD}=300\text{V}$ , $I_D=20\text{A}$ (峰值), $R_G=25\Omega$ (注 2)
Tr	上升时间		200		ns	
Td (off)	断开延迟时间		130		ns	
Tf	下降时间		125		ns	} $V_{DS}=480\text{V}$ $V_{GS}=10\text{V}$ , $I_D=20\text{A}$ (注 2)
Qg	栅极总电荷		80		nC	
Qgs	栅极—源极电荷		18		nC	
Qgd	栅极—漏极电荷		36		nC	
IS	源极—漏极二极管正向电流			20	A	
VSD	源极—漏极二极管导通电压			1.4	V	$I_S=20\text{A}$ , $V_{GS}=0$
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

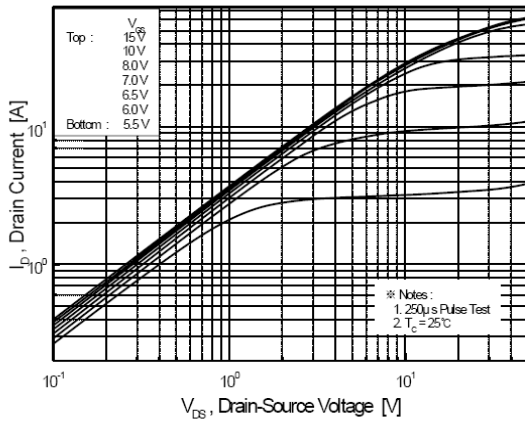


Figure 1. On-Region Characteristics

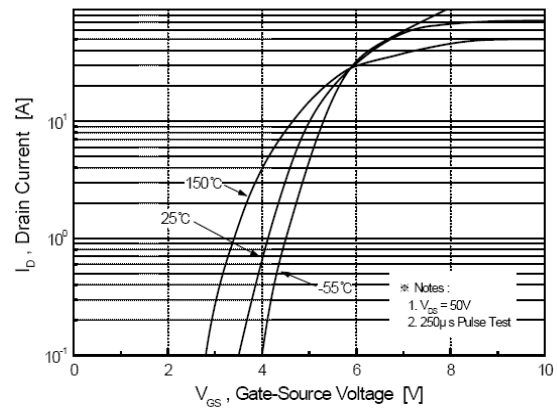


Figure 2. Transfer Characteristics

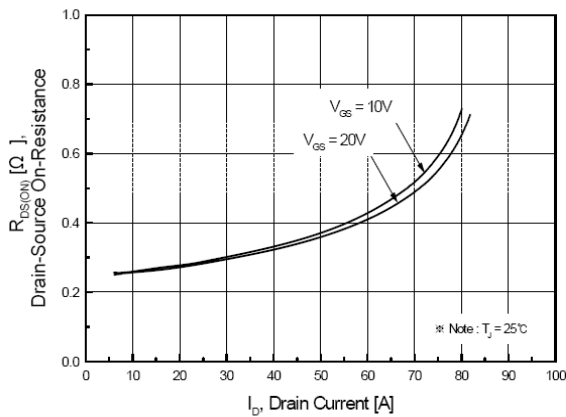


Figure 3. On-Resistance Variation vs. Drain Current and Gate Voltage

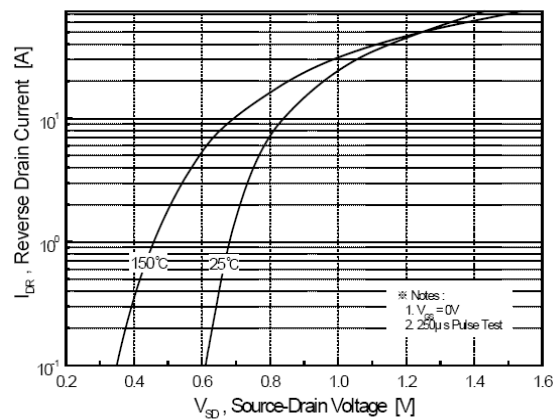


Figure 4. Body Diode Forward Voltage Variation vs. Source Current and Temperature

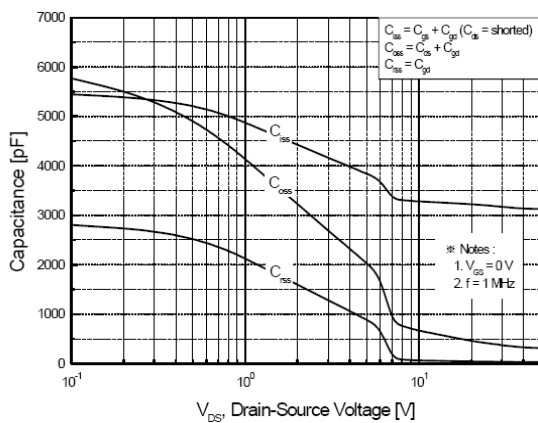


Figure 5. Capacitance Characteristics

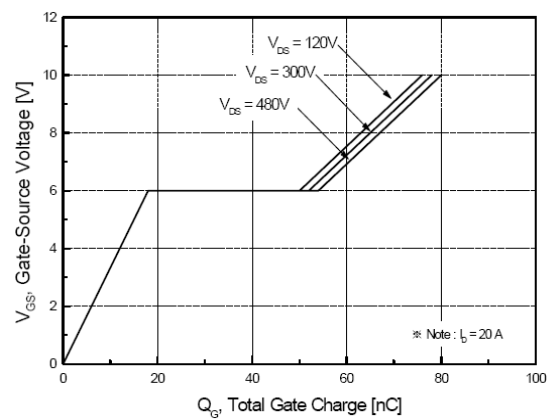


Figure 6. Gate Charge Characteristics



■ 典型特性曲线

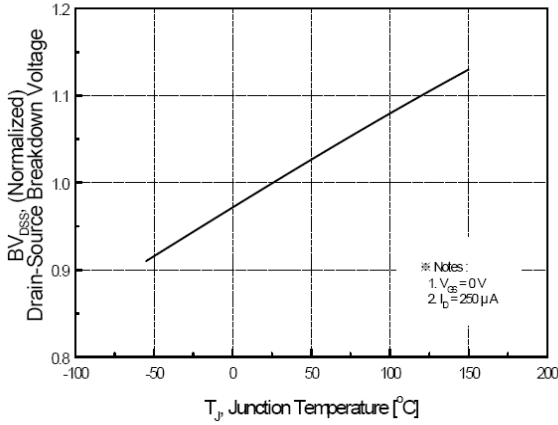


Figure 7. Breakdown Voltage Variation vs. Temperature

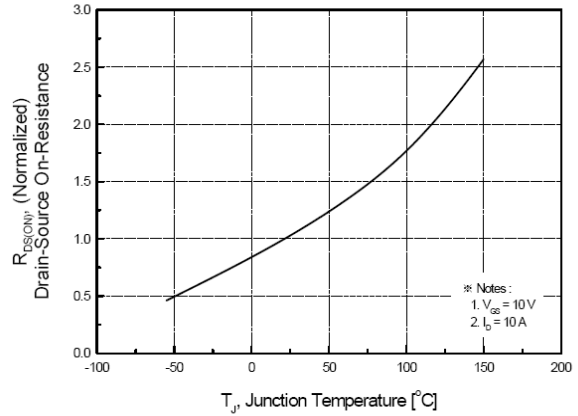


Figure 8. On-Resistance Variation vs. Temperature

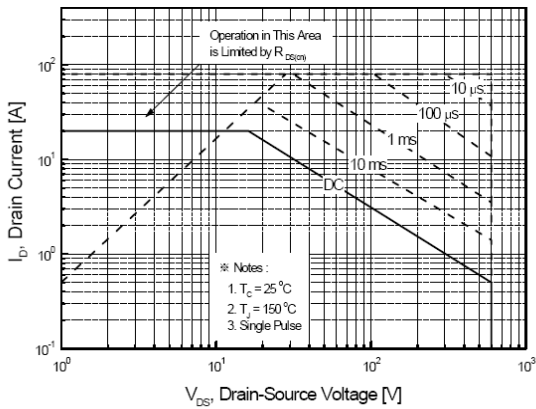


Figure 9. Maximum Safe Operating Area

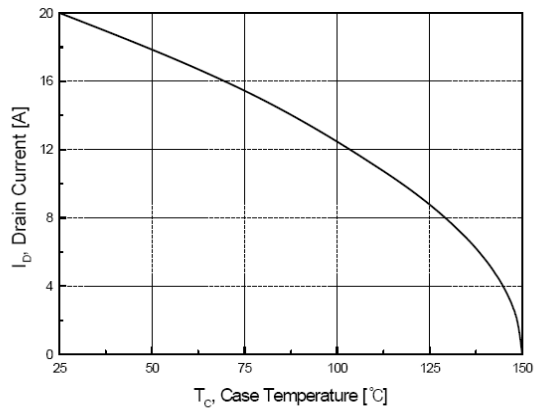


Figure 10. Maximum Drain Current vs. Case Temperature

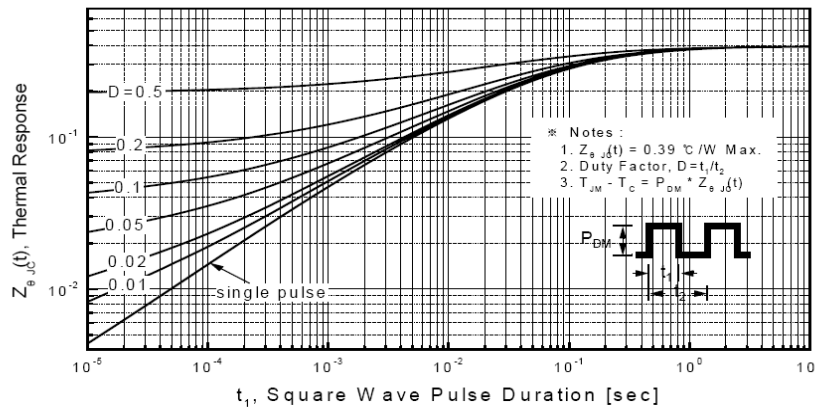
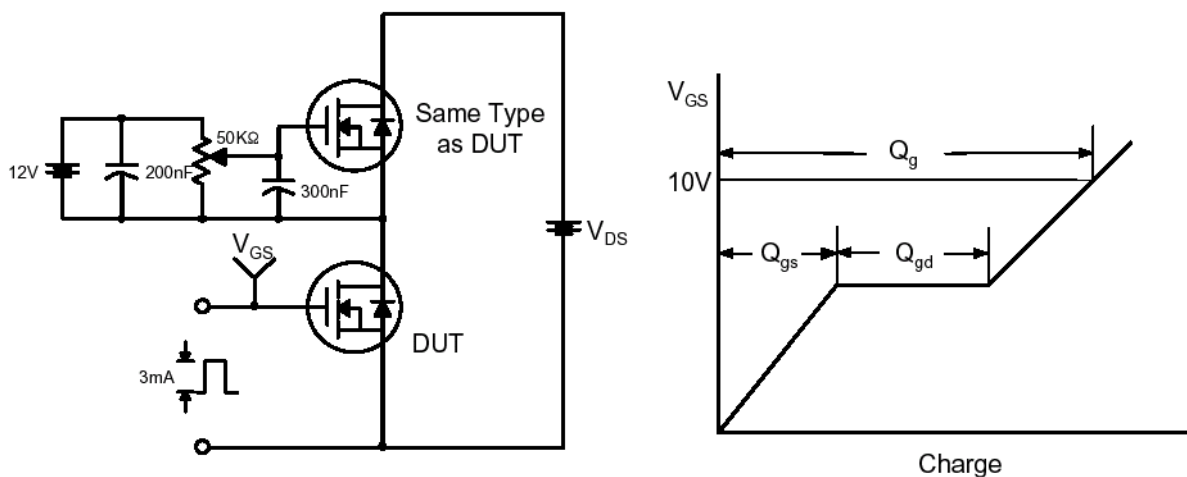


Figure 11. Transient Thermal Response Curve

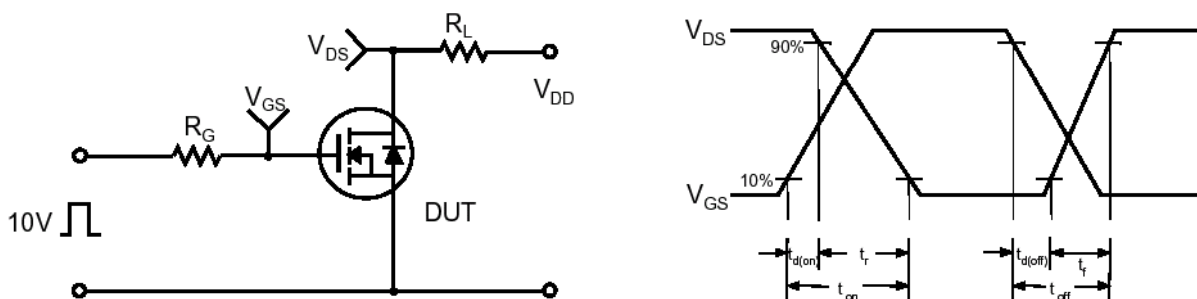


■ 典型特性曲线

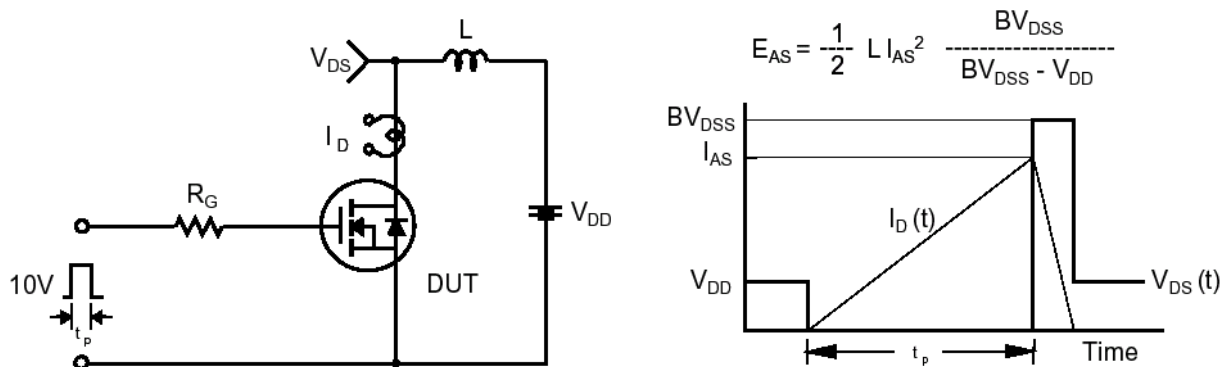
栅极存储电荷测试电路及波形图



开关时间测试电路及波形图



雪崩能量(E<sub>AS</sub>)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

