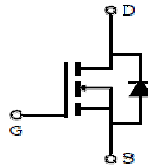


Features

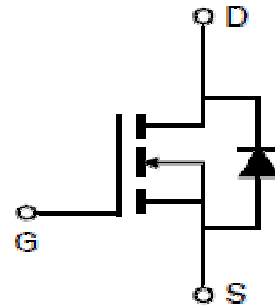
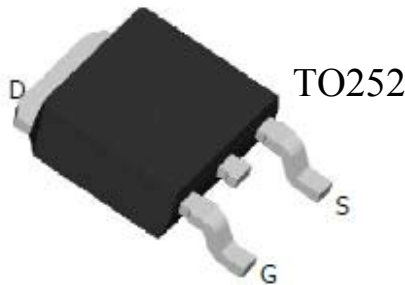
- Lead free and Green Device Available
- Low Rds-on to Minimize Conductive Loss
- High avalanche Current



V_{DSS}	30V
R_{ds(on)} V_{gs}=10V typ.	4.3mΩ
	max. 5.5mΩ
R_{ds(on)} V_{gs}=4.5V typ.	5.4mΩ
	7mΩ
I_D @ V_{gs}=10V (Silicon limited)	86A
I_D @ V_{gs}=10V (Package limited)	50A

Application

- Load Switch
- SPMS



Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Symbol	Param	Maximum	Unit
V _{DSS}	Drain-to-Source Voltage	30	V
V _{GSS}	Gate-to-Source Voltage	±20	V
I _D V _{gs} =10V I _D V _{gs} =4.5V	Continuous Drain Current	T _C =25°C (Silicon limited)	86
		T _C =100°C (Silicon limited)	61
		T _C =25°C (Package limited)	50
		T _C =25°C (Silicon limited)	76
		T _C =100°C (Silicon limited)	54
		T _C =25°C (Package limited)	50
I _{DP}	Pulsed Drain Current	T _C =25°C	-
I _{AS}	Avalanche Current (L=0.1mH)	23	A
E _{AS}	Avalanche Energy (L=0.1mH)	26	mJ
P _D	Maximum Power Dissipation	T _C =25°C	71
		T _C =100°C	35
T _J , T _{STG}	Junction & Storage Temperature Range	-55~175	°C

Thermal Characteristics

Symbol	Parameter	Max.	Unit
R _{thJC}	Thermal resistance, junction to case	2.1	°C/W
R _{thJA}	Thermal resistance, junction to ambient	106	°C/W

Electrical Characteristics (TA=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ	Max.	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30	—	—	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=30V, V_{GS}=0V$	—	—	1	μA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.8	—	1.8	V
I_{GSS}	Gate Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	—	—	± 100	nA
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V, I_D=25A$	—	4.3	5.5	m Ω
		$V_{GS}=4.5V, I_D=20A$	—	5.4	7	
G_{fs}	Forward Transconductance	$V_{DS}=5V, I_D=90A$	—	72	—	S
Diode Characteristics						
V_{SD}	Diode Forward Voltage	$I_{SD}=25A, V_{GS}=0V$	—	0.8	1.3	V
I_S	Diode Continuous Forward Current		—	—	50	A
t_{rr}	Reverse Recovery Time	$I_S=20A,$ $di/dt=100A/\mu s$	—	14	—	nS
Q_{rr}	Reverse Recovery Charge		—	2.8	—	nC
Dynamic Characteristics						
R_G	Gate Resistance	$V_{GS}=0V, V_{DS}=0V,$ Frequency=1MHz	—	1.9	—	Ω
C_{iss}	Input Capacitance	$V_{GS}=0V,$ $V_{DS}=15V,$ F=1MHz	—	2999	—	pF
C_{oss}	Output Capacitance		—	335	—	
C_{rss}	Reverse Transfer Capacitance		—	290	—	
$t_{d(on)}$	Turn-On Delay Time	$V_{DS}=15V,$ $I_D=1A,$ $R_g=3\ \Omega,$ $V_{GS}=4.5V$	—	21	—	nS
t_r	Rise Time		—	32	—	
$t_{d(off)}$	Turn-Off Delay Time		—	59	—	
t_f	Fall Time		—	34	—	
Gate Charge Characteristics						
Q_g	Total Gate Charge	$V_{DS}=25V,$ $V_{GS}=4.5V,$ $I_D=14A$	—	26	—	nC
Q_{gs}	Gate-to-Source Charge		—	3.5	—	
Q_{gd}	Gate-to-Drain Charge		—	14	—	

Typical Operating Characteristics

Figure 1. Typ. Output Characteristics

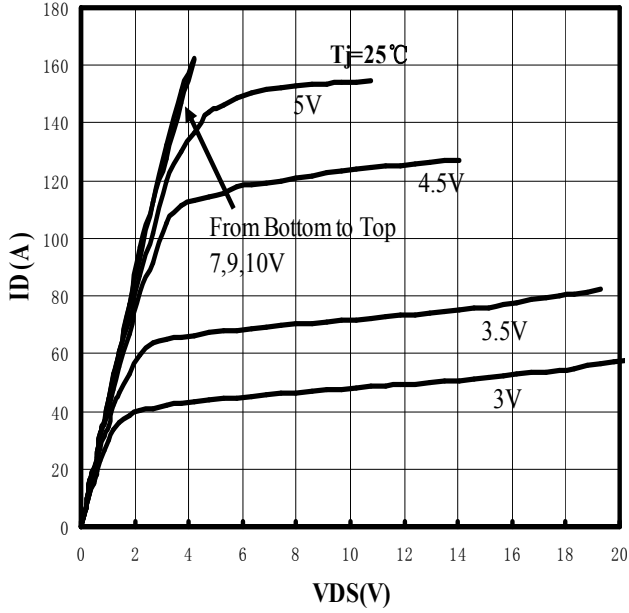


Figure 2. Typ. Output Characteristics

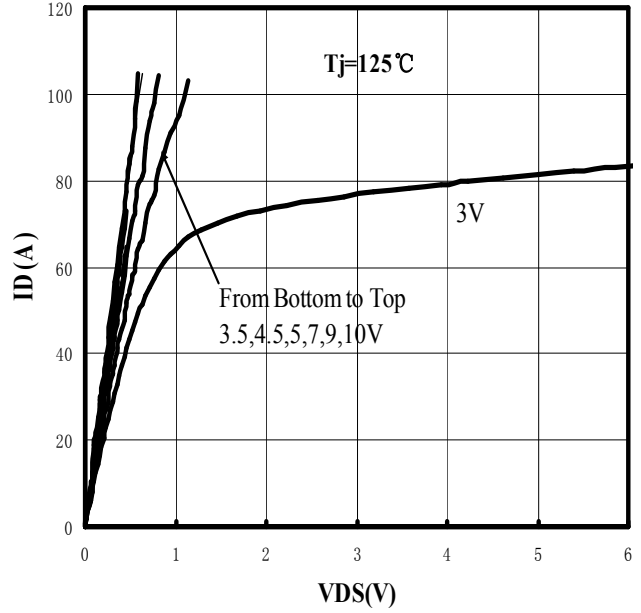


Figure 3. Transfer Characteristics

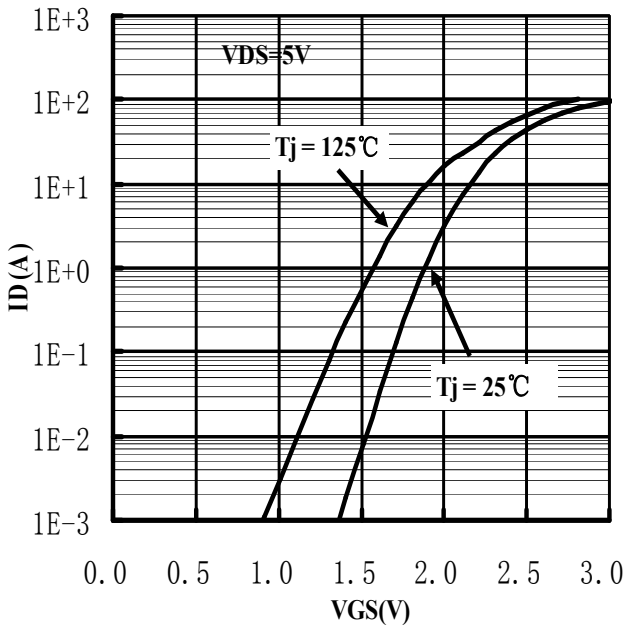
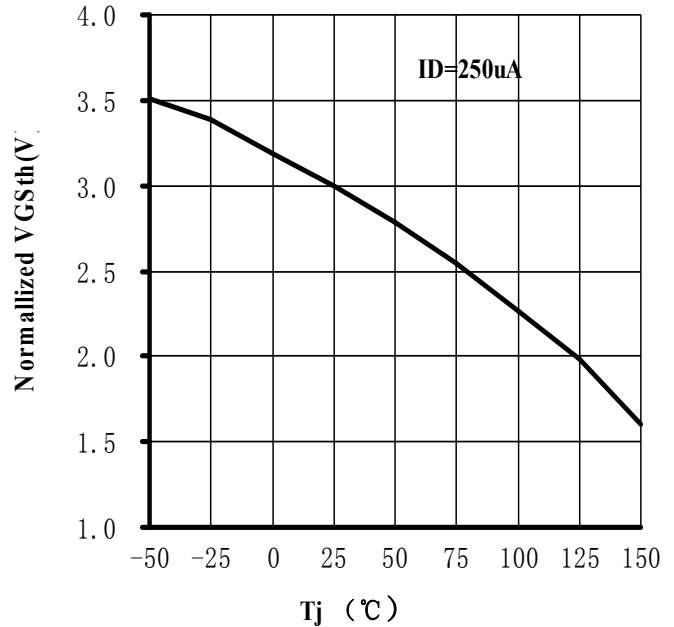


Figure 4. Gate Threshold Voltage Characteristics



Typical Operating Characteristics

Figure 5. Rdson vs. Drain Current Characteristics

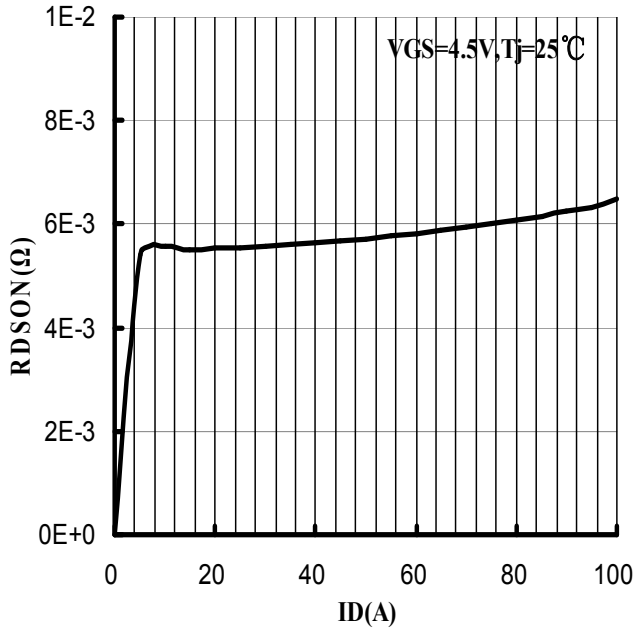


Figure 6. Rdson vs. Junction Tem Characteristics

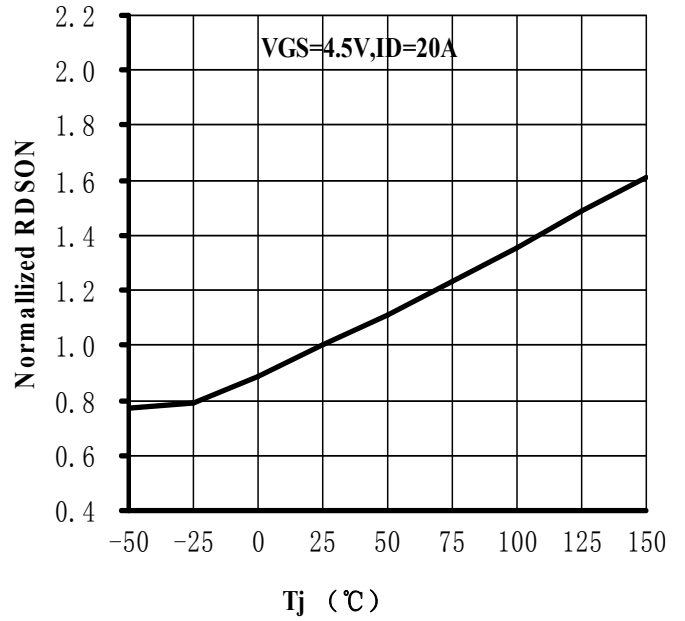


Figure 7. Rdson vs. VGS Characteristics

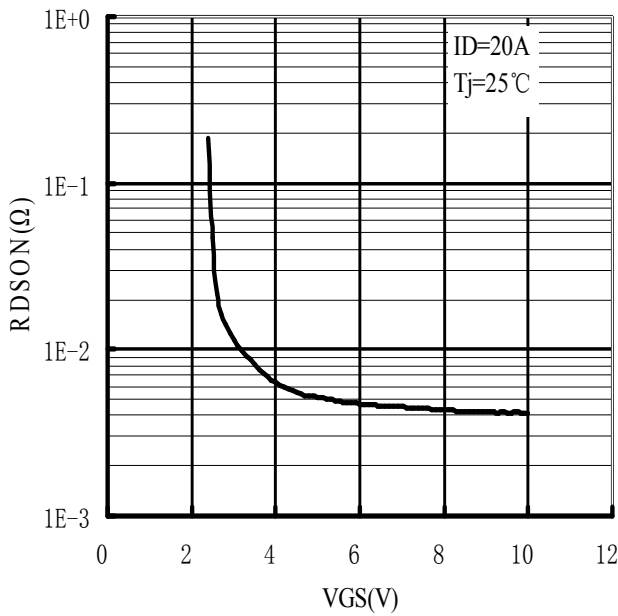
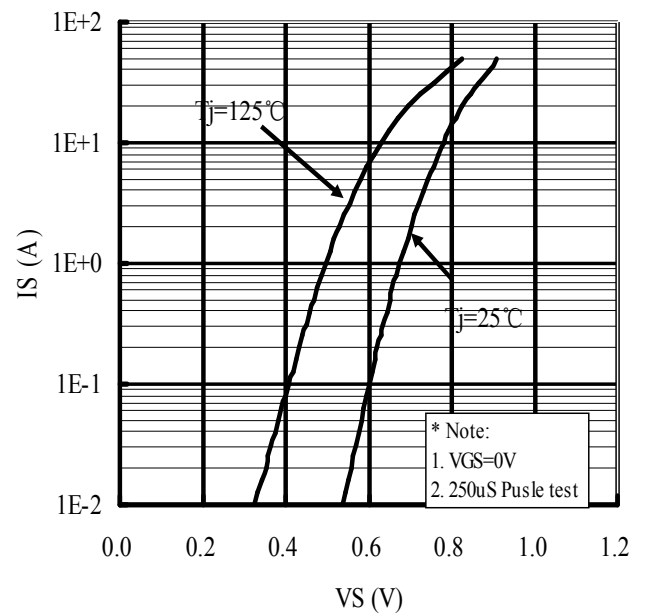


Figure 8. IS vs. VSD Characteristics



Typical Operating Characteristics

Figure 9. Gate Charge Characteristics

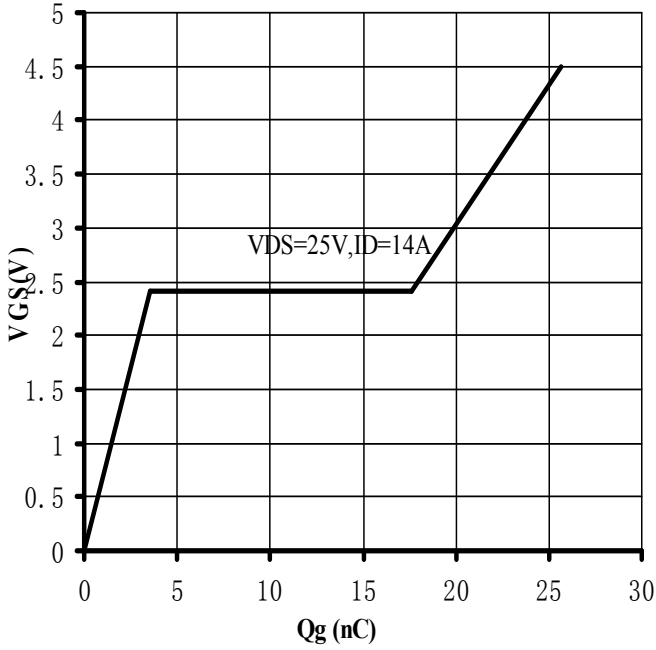


Figure 10. Capacitance Characteristics

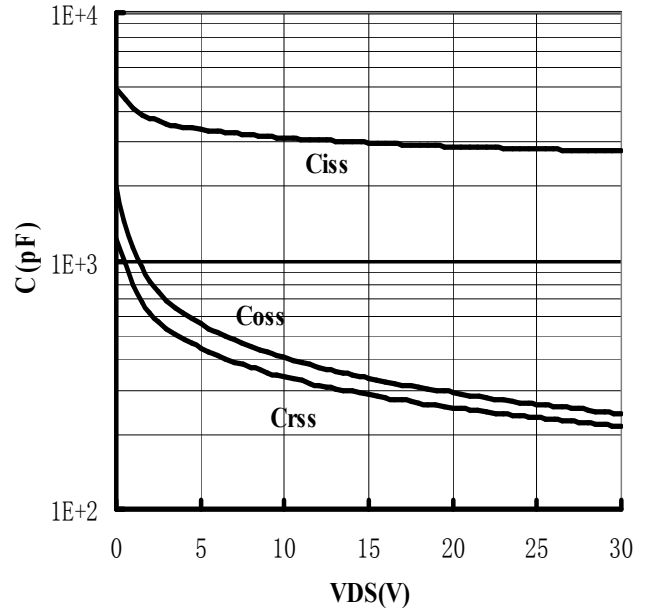
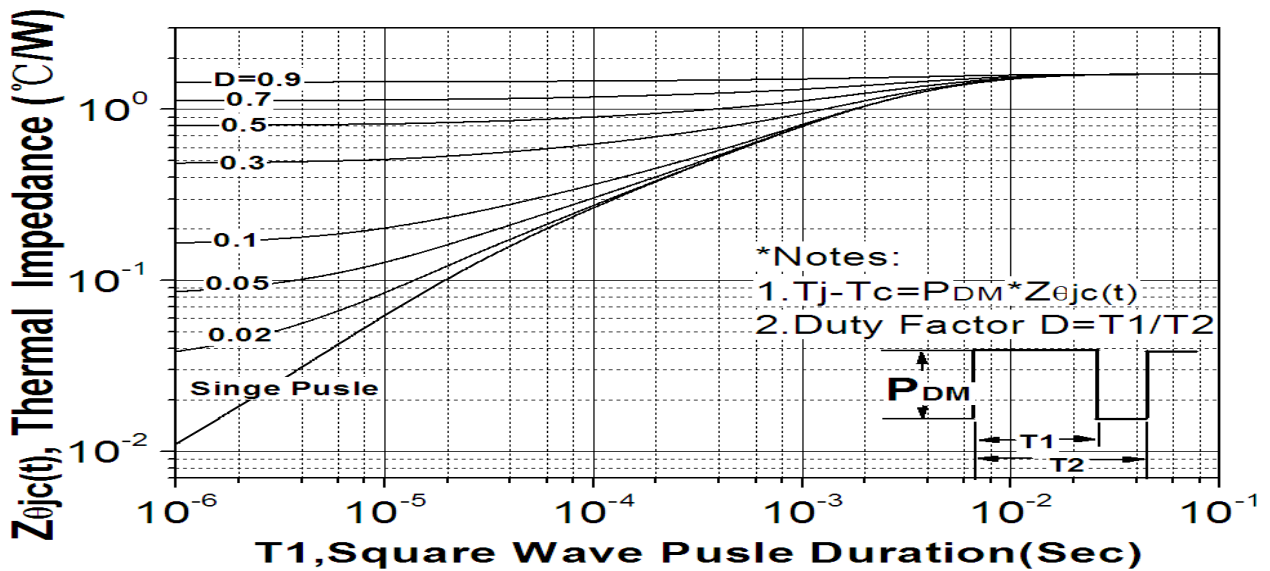
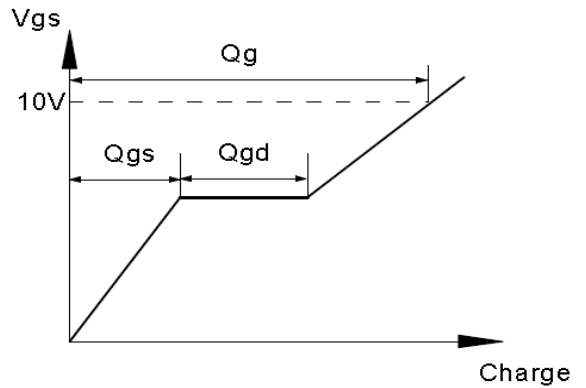
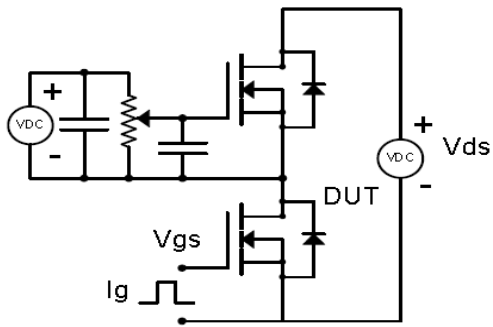


Figure 11. Thermal Resistance Characteristics

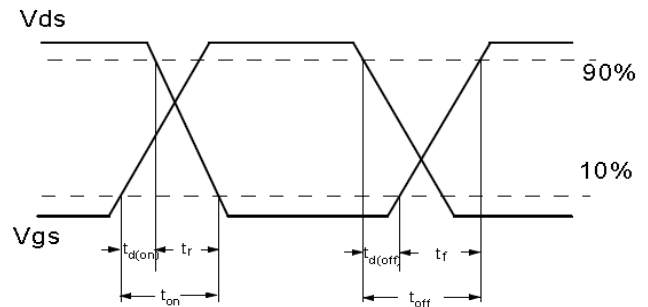
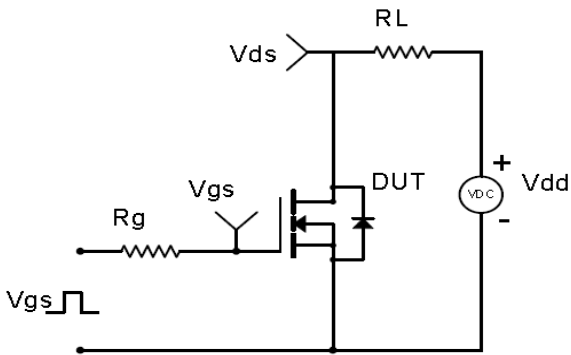


Test Circuit & Waveform

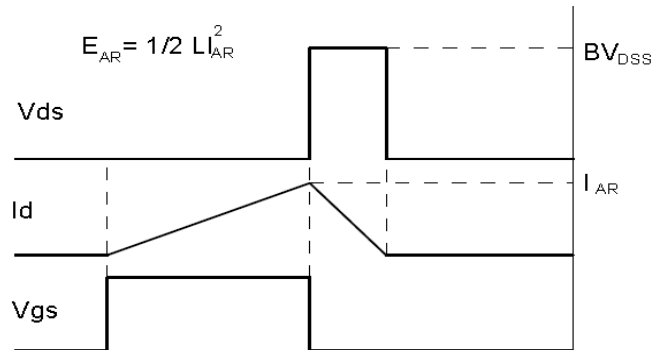
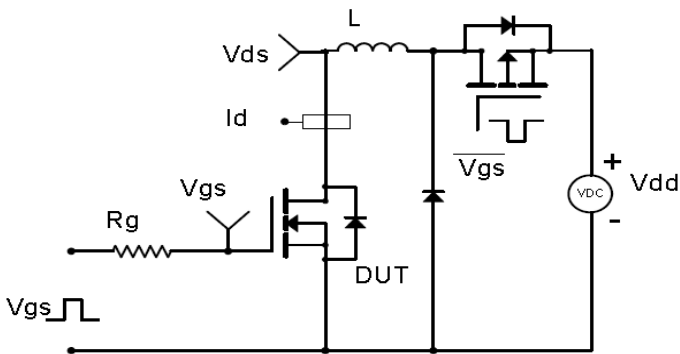
Gate Charge Test Circuit & Waveform



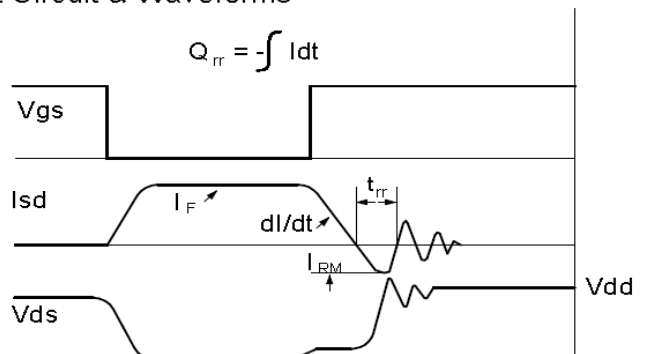
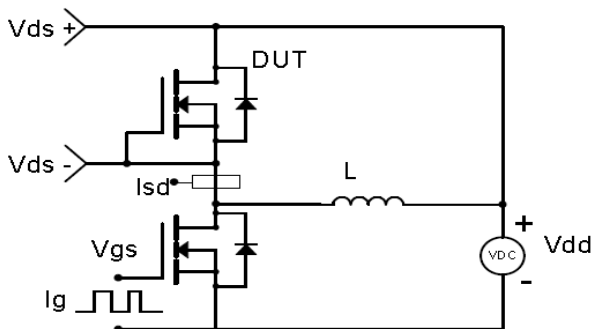
Resistive Switching Test Circuit & Waveforms



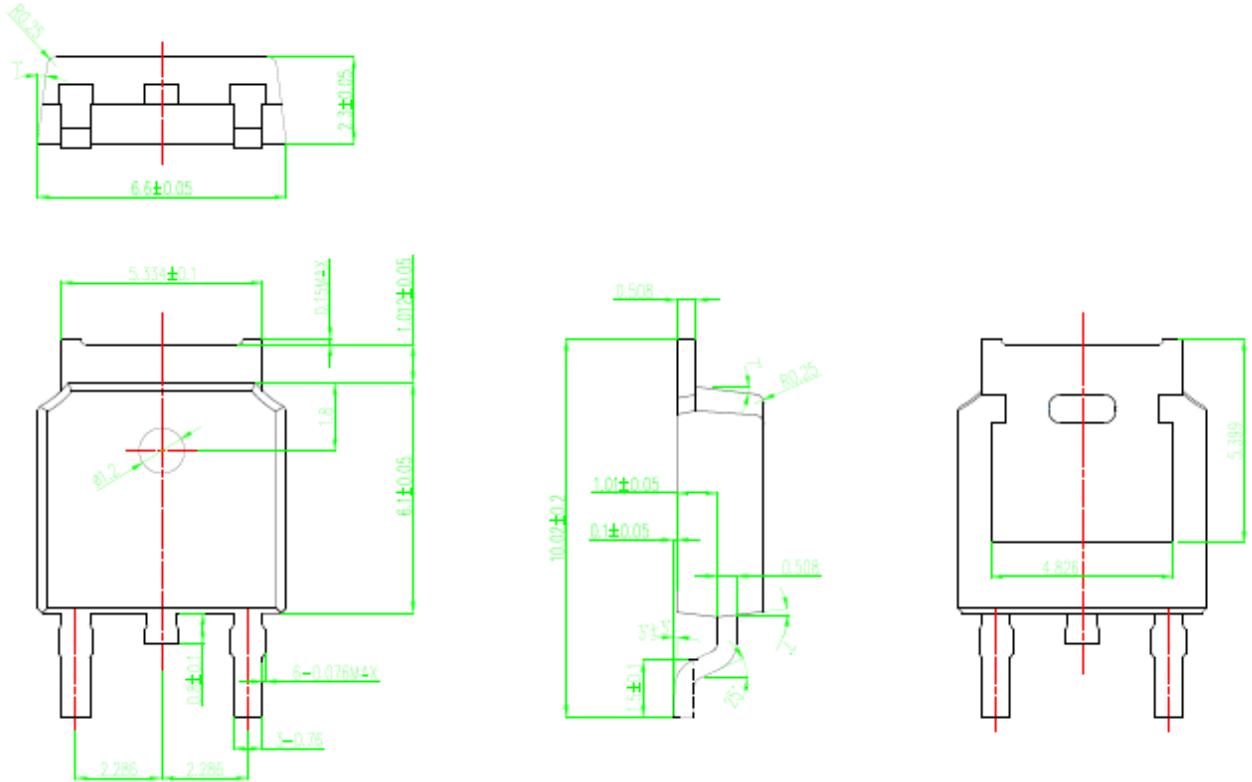
Unclamped Inductive Switching (UIS) Test Circuit & Waveforms



Diode Recovery Test Circuit & Waveforms



Package Information



技术要求:

1. 塑封体中心与引线框架中心线偏差 ≤ 0.05 ，上下塑封体中心偏差 ≤ 0.05 ；
2. 塑封体不准有缺损、气泡、气孔、裂纹等缺陷；
3. 塑封体表面除阴影部分为毛面，其余为光面；
4. 未注脱模斜度 $\leq 5^\circ$ ；
5. 未注公差为 ± 0.05 ，未注圆角为 $R0.15$ (max)

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