

Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit
Common Ratings (Tc=25°C Unless Otherwise Noted)			

Electrical Characteristics (Cont.) (T_c =25°C Unless Otherwise Noted)

Symbol	Parameter	Test Conditions	HYG015N06NS1			Unit
			Min	Typ.	Max	
Dynamic Characteristics						
R _G	Gate Resistance	V _{GS} =0V, V _{DS} =0V, F=500KHz	-	0.4	-	
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =25V, Frequency=500KHz	-	10535	-	pF
C _{oss}	Output Capacitance		-	2840	-	
C _{rss}	Reverse Transfer Capacitance		-	55.5	-	
t _{d(ON)}	Turn-on Delay Time	V _{DD} =30V, R _G =				

Typical Operating Characteristics

Figure 1: Power Dissipation

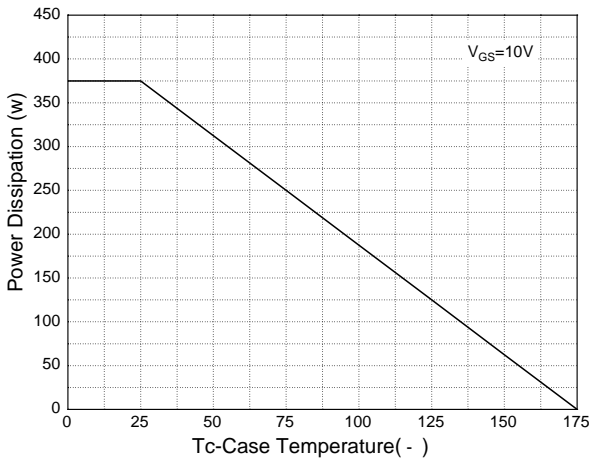


Figure 2: Drain Current

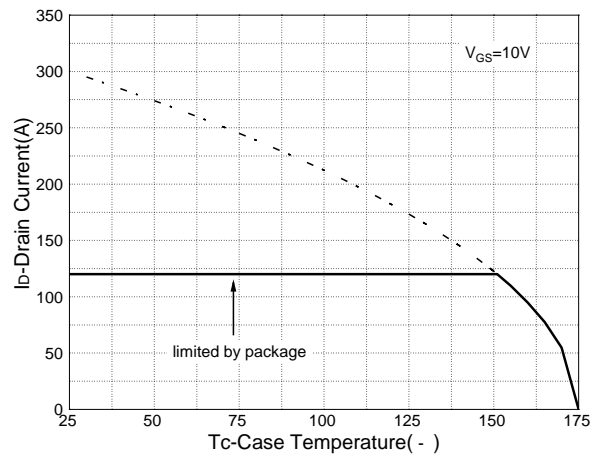


Figure 3: Safe Operation Area

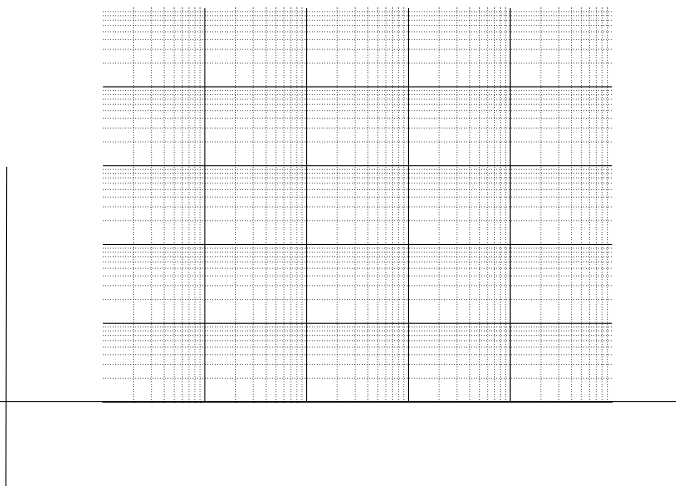


Figure 4: Thermal Transient Impedance

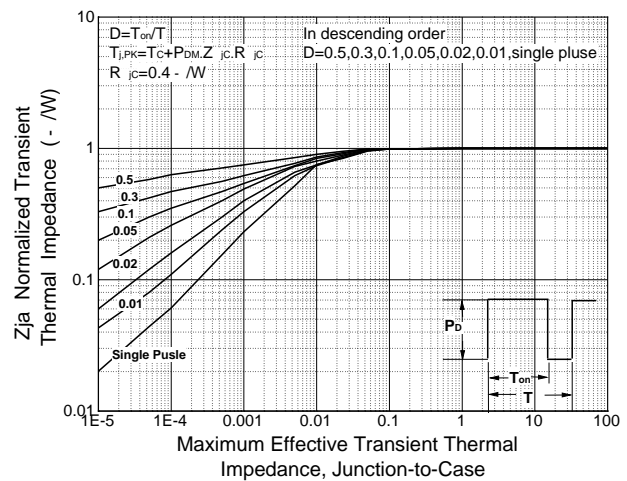


Figure 5: Output Characteristics

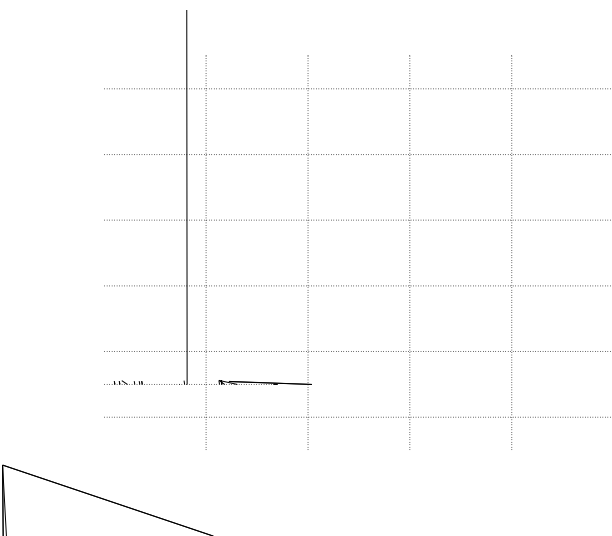
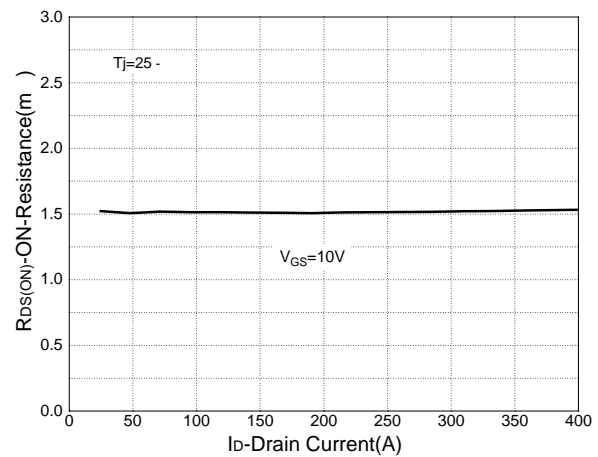
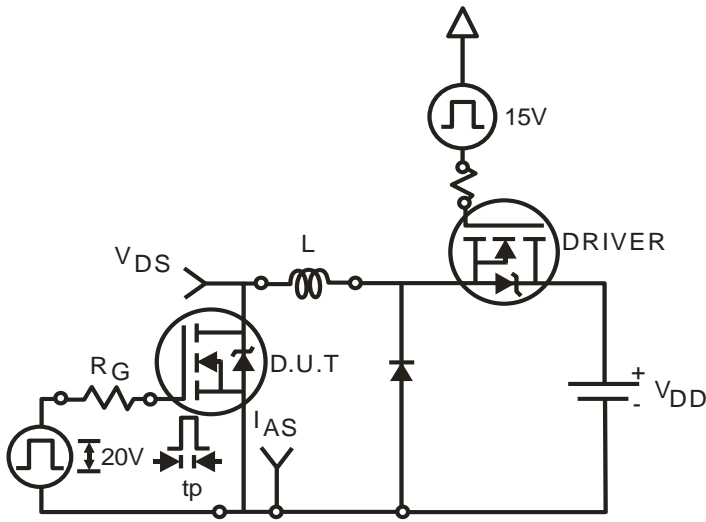


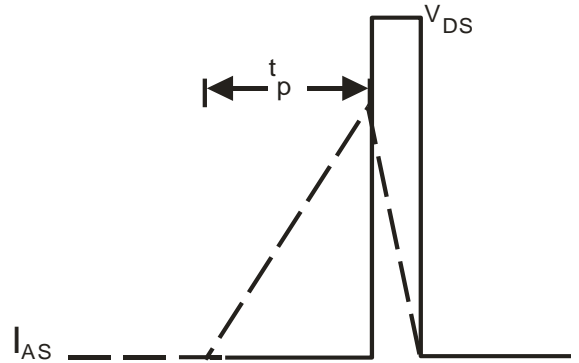
Figure 6: Drain-Source On Resistance



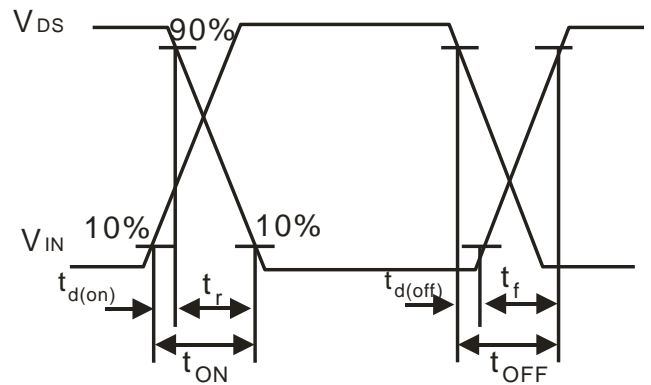
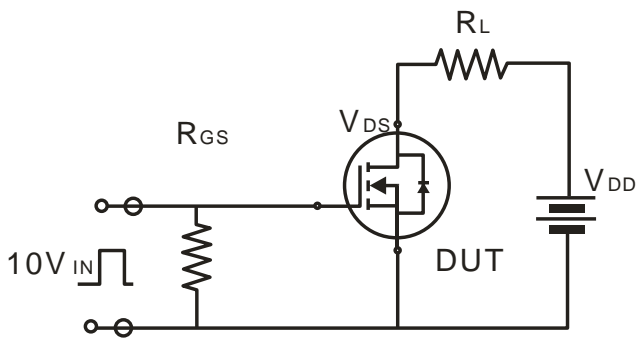
Avalanche Test Circuit



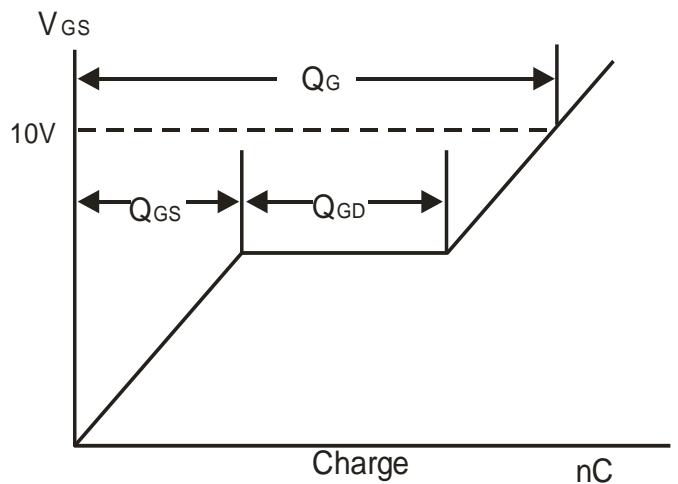
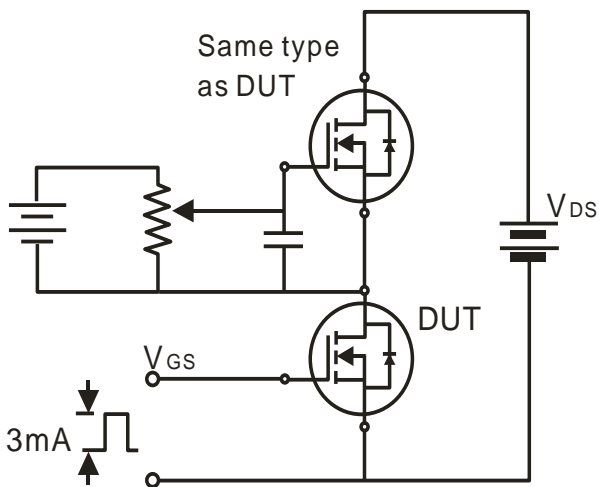
$$E_{AS} = \frac{1}{2} L I_{AS}^2$$



Switching Time Test Circuit



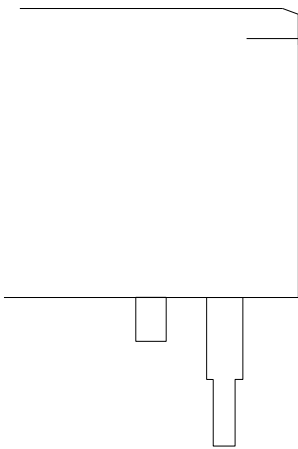
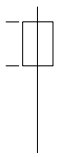
Gate Charge Test Circuit



Device Per Unit

Package Type	Unit	Quantity
TO-220FB-3L	Tube	50
TO-263-2L	Reel	800

TO-263-2L



COMMON DIMENSIONS			
SYMBOL	mm		
	MIN	NOM	MIN
A	4.37	4.57	4.77
A1	1.22	1.27	1.42
A2	2.49	2.69	2.89
A3	0	0.13	0.25
b	0.70	0.81	0.96
b1	1.17	1.27	1.47
c	0.30	0.38	0.53
D1	8.50	8.70	8.90
D4	6.60	-	-
E	9.86	10.16	10.36
E5	7.06	-	-
e	2.54 BSC		
H	14.70	15.10	15.50
H2	1.07	1.27	1.47
L	2.00	2.30	2.60
L1	1.40	1.55	1.70
L4	0.25 BSC		
	0°	5°	9°

Classification Profile

Classification Reflow Profiles

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
	Preheat & Soak	
Temperature min (T_{smin})	100 °C	
Temperature max (T_{smax})	150 °C	
Time (T_{smin} to T_{smax}) (t_s)	60-	

Table 1.SnPb Eutectic Process – Classification Temperatures (Tc)

Package Thickness	Volume mm ³ <350	Volume mm ³ 1 350
Ø2.5 mm	235 °C	220 °C
2.5 mm	220 °C	220 °C

Table 2.Pb-free Process – Classification Temperatures (Tc)

Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ 1 2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm – 2.5 mm	260 °C	250 °C	245 °C
1 2.5 mm	250 °C	245 °C	245 °C

Reliability Test Program

Test item	Method	Description
SOLDERABILITY	JESD-22, B102	5 Sec, 245°C
HTRB	JESD-22, A108	168/500 Hrs, Bias @ 150°C
HTGB	JESD-22, A108	168 /500 Hrs, V _{gs} 100% @ 150°C
PCT	JESD-22, A102	96 Hrs, 100%RH, 2atm, 121°C
TCT	JESD-22, A104	250/500 Cycles, -55°C~150°C

Customer Service

Worldwide Sales and Service: sales@hymexa.com

Technical Support: Technology@hymexa.com

Huayi Microelectronics Co., Ltd.

No.8928, Shangji Road, Economic and Technological Development Zone, Xi'an, China

TEL: (86-029) 86685706

FAX: (86-029) 86685705

E-mail: sales@hymexa.com

Web net: <http://www.hymexa.com/>