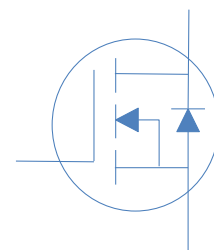
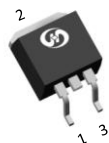


80V N-Ch Power MOSFET

$V_{DS}$		80	V
$R_{DS(on),typ}$	TO-263	1.7	m
$R_{DS(on),typ}$	TO-220	2	m
$I_D$ (Silicon Limited)		285	A
$I_D$ (Package Limited)		180	A



Part Number	Package	Marking
HGB021N08A	TO-263	GB021N08A
HGP021N08A	TO-220	GP021N08A

**Absolute Maximum Ratings at  $T_J=25^{\circ}\text{C}$  (unless otherwise specified)**

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	$I_D$	$T_C=25^{\circ}\text{C}$	285	A
		$T_C=100^{\circ}\text{C}$	202	
		$T_C=25^{\circ}\text{C}$	180	
Continuous Drain Current (Package Limited)			180	
Drain to Source Voltage	$V_{DS}$	-	80	V
Gate to Source Voltage	$V_{GS}$	-	$\pm 20$	V
Pulsed Drain Current	$I_{DM}$	-	900	A
Avalanche Energy, Single Pulse	$E_{AS}$	$L=0.1\text{mH}, T_C=25^{\circ}\text{C}$	180	mJ
Power Dissipation	$P_D$	$T_C=25^{\circ}\text{C}$	333	W
Operating and Storage Temperature	$T_J, T_{stg}$	-	-55 to 175	$^{\circ}\text{C}$

**Absolute Maximum Ratings**

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	$R_{JA}$	60	$^{\circ}\text{C}/\text{W}$
Thermal Resistance Junction-Case	$R_{JC}$	0.45	$^{\circ}\text{C}/\text{W}$



max

Drain to Source on Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=20A$	TO-220	-	2	2.4	nA
Transconductance					79	-	m
Gate Resistance	$R_G$						m

Fig 1. Typical Output Characteristics

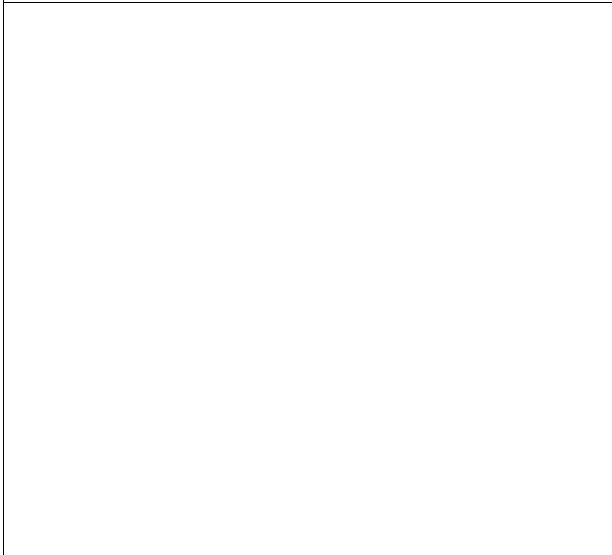


Figure 2. On-Resistance vs. Gate-Source Voltage

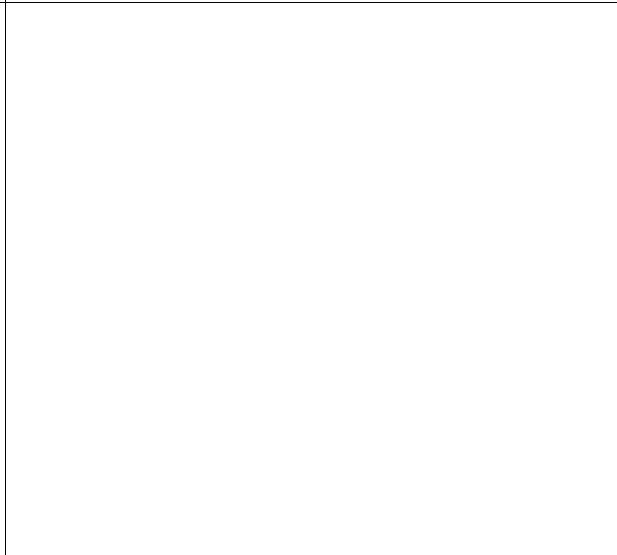


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

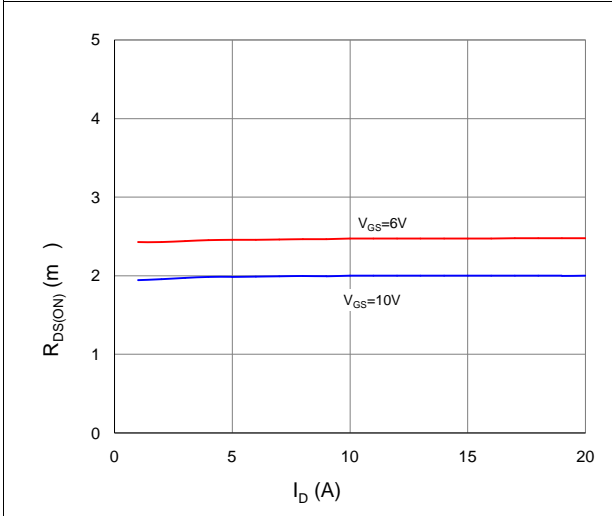


Figure 4. Normalized On-Resistance vs. Junction Temperature



Figure 5. Typical Transfer Characteristics

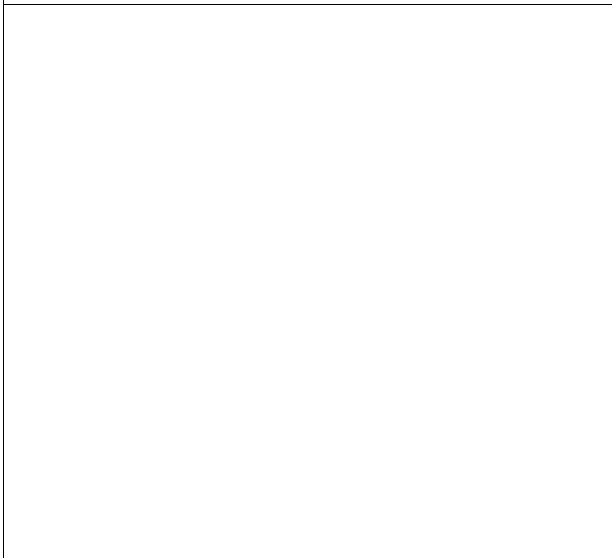


Figure 6. Typical Source-Drain Diode Forward Voltage

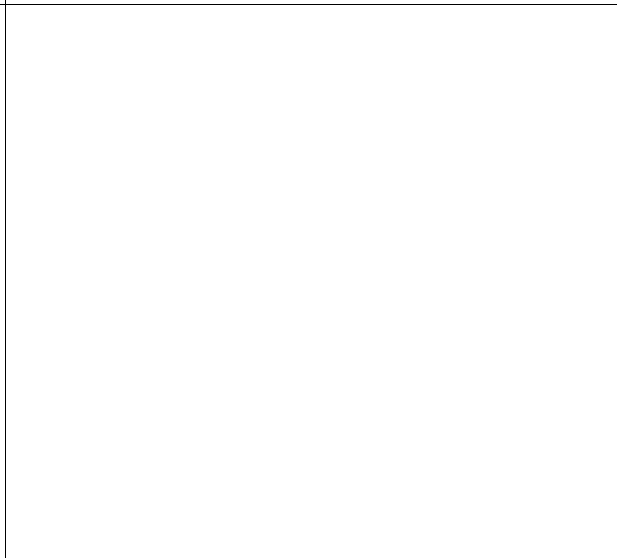


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

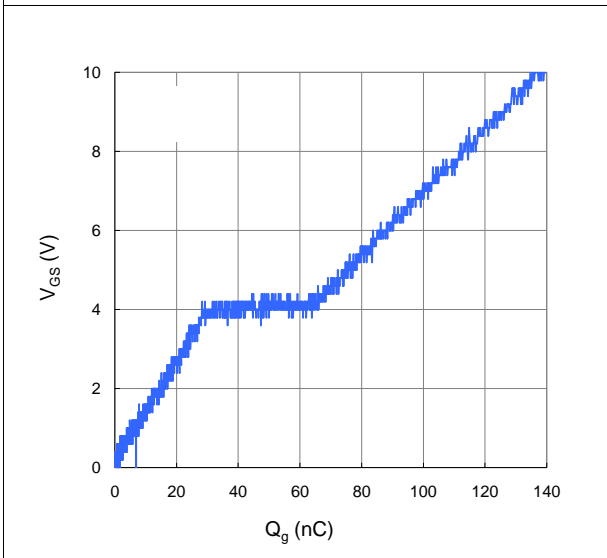


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

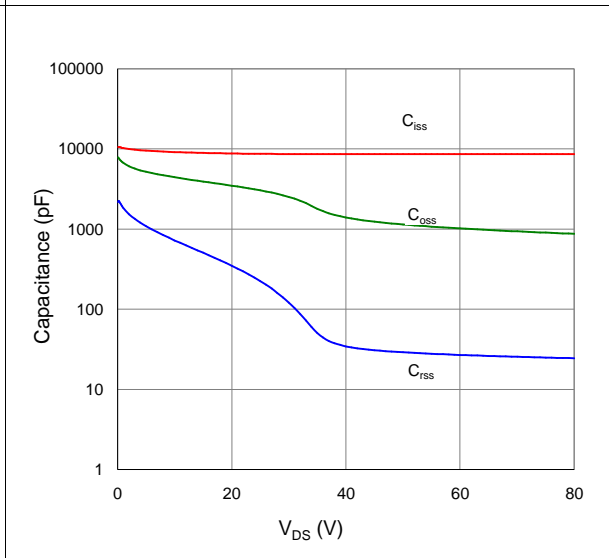


Figure 9. Maximum Safe Operating Area

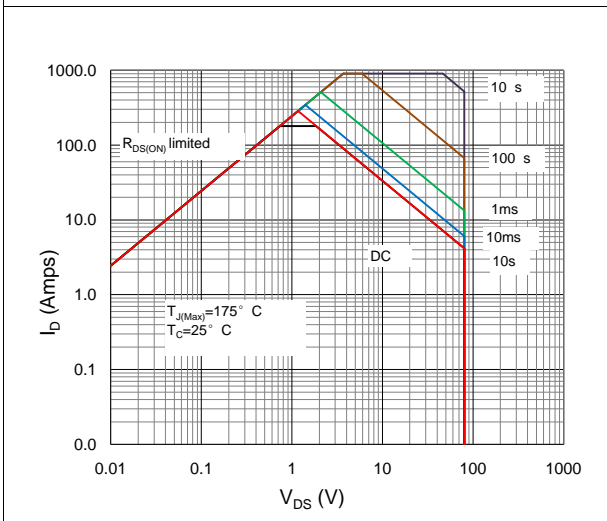


Figure 10. Maximum Drain Current vs. Case Temperature

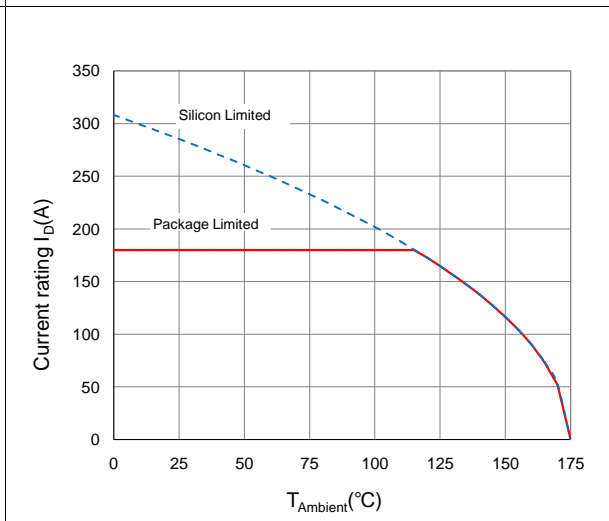
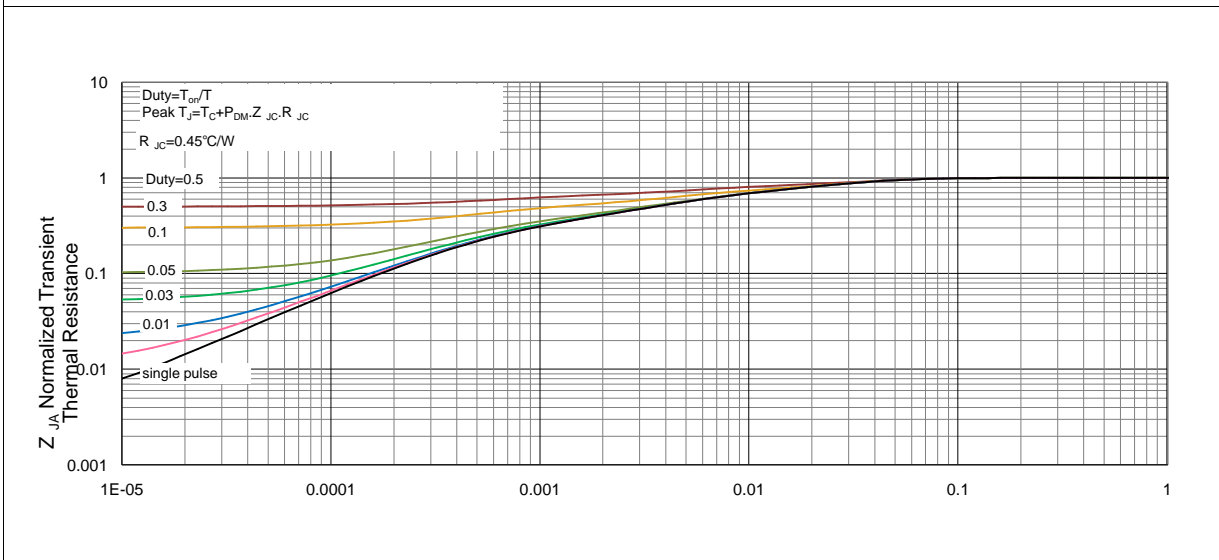
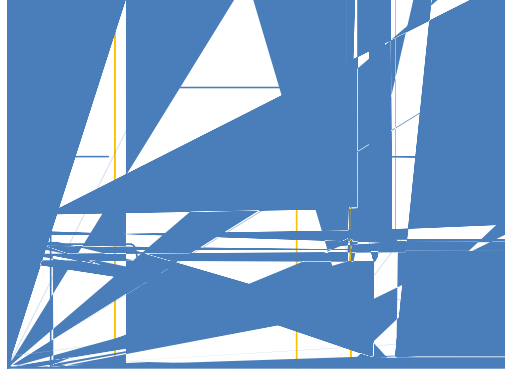
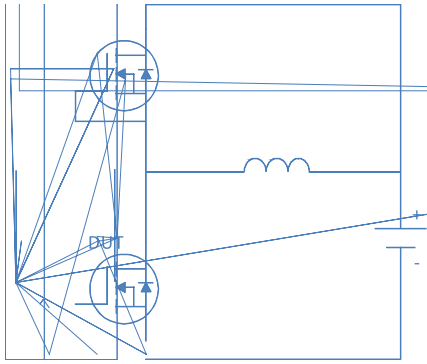


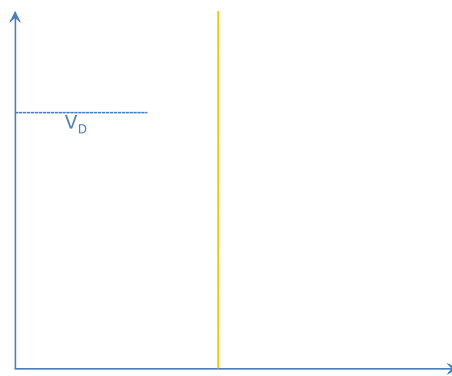
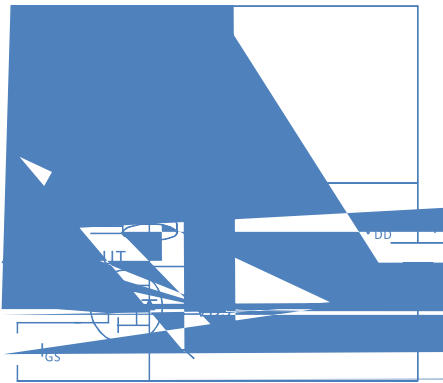
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient



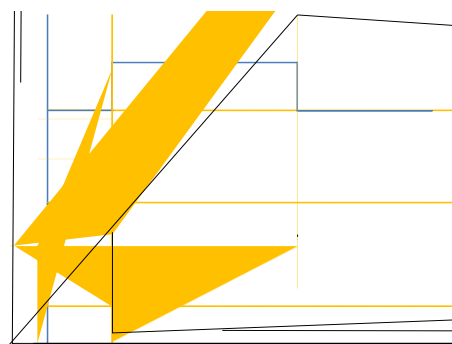
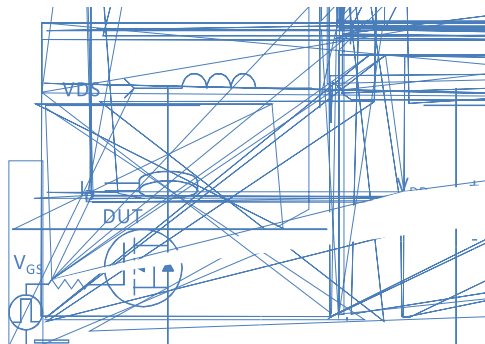
Inductive switching Test



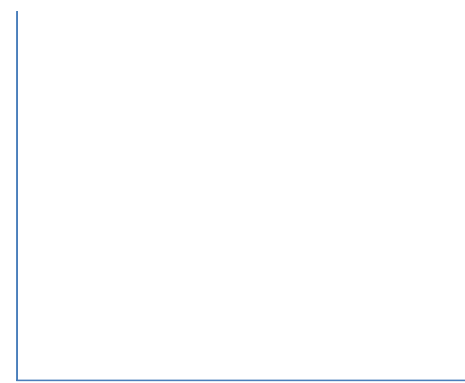
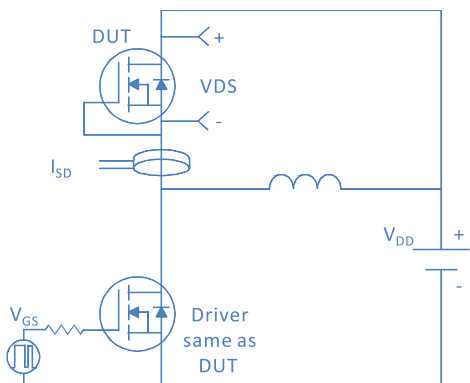
Gate Charge Test



Uclamped Inductive Switching (UIS) Test

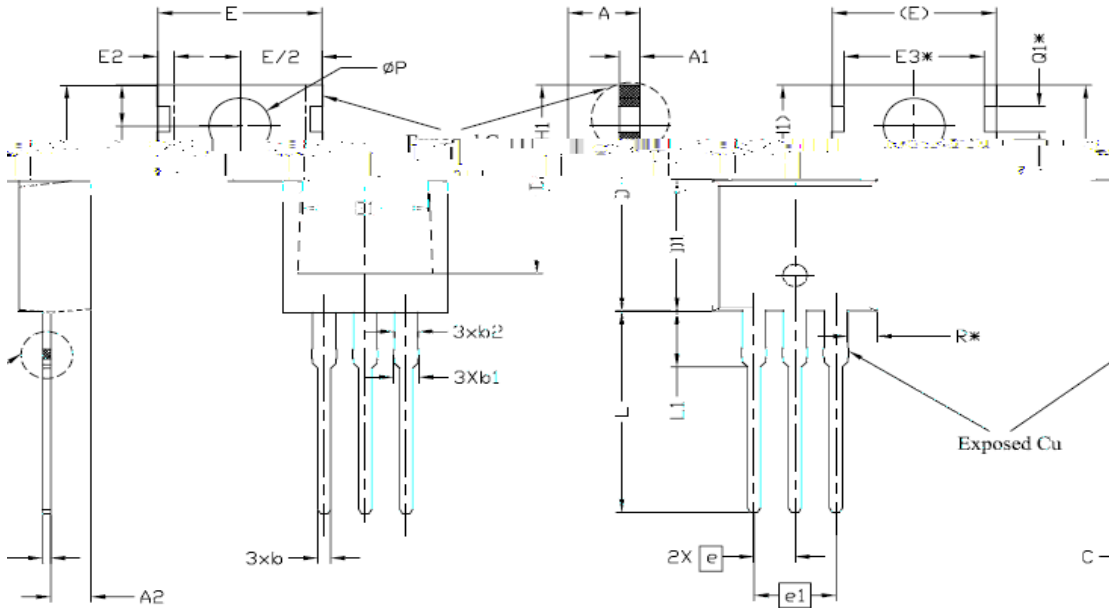


Diode Recovery Test



Package Outline

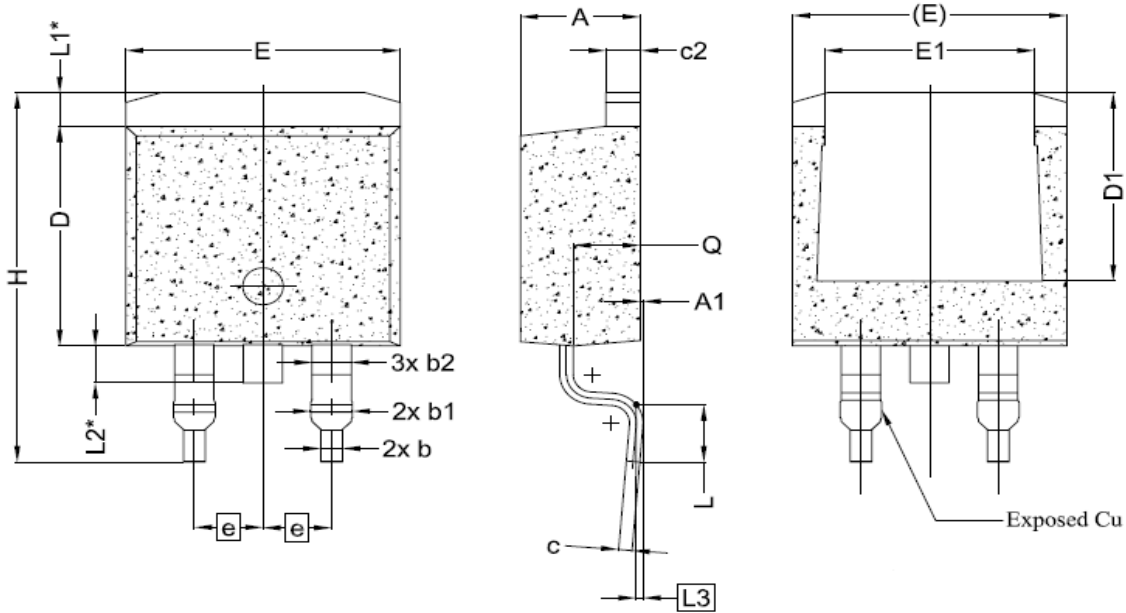
TO-220, 3 leads



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
A	16.25	16.78	17.27	
A1	1.27	1.27	1.27	
A2	2.54	2.54	2.54	
B	3.18	3.18	3.18	
B1	1.27	1.27	1.27	
B2	1.27	1.27	1.27	
e	2.54	2.54	2.54	
e1	14.29	14.29	14.29	
E	9.14	9.14	9.14	
E2	8.89	8.89	8.89	5.3
E3	8.89	8.89	8.89	5.3
E3*		8.89	8.89	5.3
ØP		Ø3.05		
R		Ø3.05		
R*		Ø3.05		
3xb		3x0.41		
3xb1		3x0.4550		
3xb2		3x0.6550		
2X e	8.89	8.89	8.89	5.3
e1	13.42	13.72	13.97	
e	3.40	3.80	4.25	
ØP	3.76	3.81	3.83	
Ø	2.85	2.88	3.00	
Ø1*		Ø3.05		
R*		Ø3.05		

Package Outline

TO-263, 3 leads



Symbol	Value	Value	Symbol
A	1.27	1.27	A1
b	0.51	0.51	b1
b1	0.51	0.51	b2
b2	0.51	0.51	c
c	0.25	0.25	c2
c2	0.25	0.25	D
D	2.54	2.54	D1
D1	2.54	2.54	E
E	2.54	2.54	E1
E1	2.54	2.54	H
H	2.54	2.54	L1
L1	2.54	2.54	L2
L2	2.54	2.54	L3
L3	2.54	2.54	Q
Q	2.54	2.54	