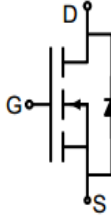
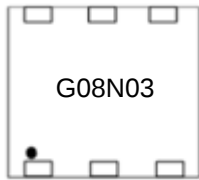
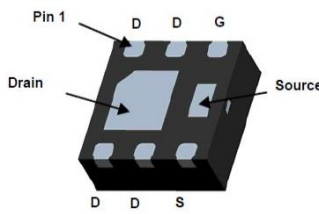


N-Channel Enhancement Mode Power MOSFET

Description The G08N03D2 uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge. It can be used in a wide variety of applications.		 Schematic diagram	
General Features • V_{DS} 30V • I_D (at $V_{GS} = 10V$) 8A • $R_{DS(ON)}$ (at $V_{GS} = 10V$) < 20mΩ • $R_{DS(ON)}$ (at $V_{GS} = 5V$) < 30mΩ • 100% Avalanche Tested • RoHS Compliant		 Marking and pin assignment	
Application • Power switch • DC/DC converters		 DFN2*2	
Device	Package	Marking	Packaging
G08N03D2	DFN2*2	G08N03	3000pcs/Reel

Absolute Maximum Ratings $T_C = 25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Continuous Drain Current	I_D	8	A
Pulsed Drain Current (note1)	I_{DM}	32	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	P_D	17	W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 To 150	$^\circ\text{C}$

Thermal Resistance

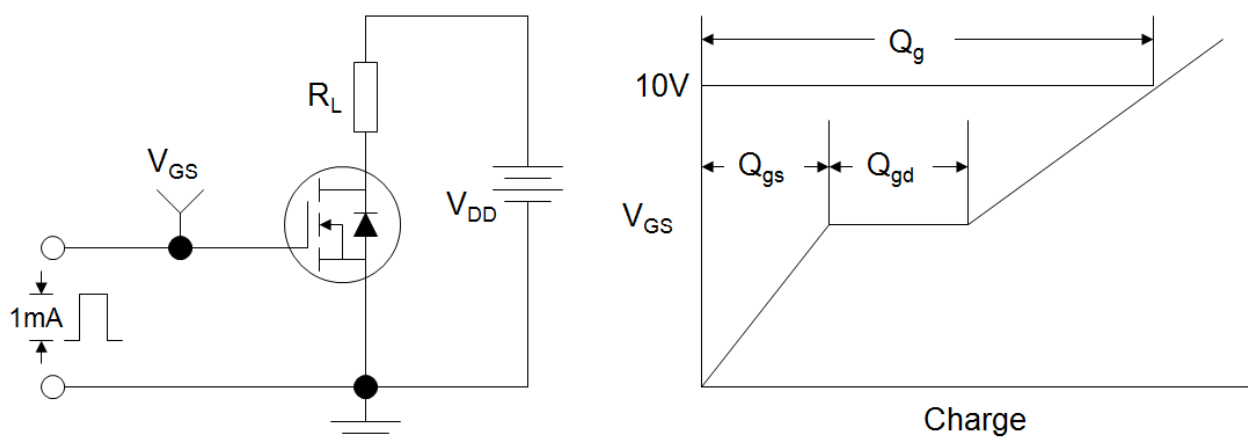
Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case	R_{thJC}	6.2	$^\circ\text{C/W}$

Specifications T _J = 25°C, unless otherwise noted						
Parameter	Symbol	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
Static Parameters						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	30	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0V	--	--	1	μA
Gate-Source Leakage	I _{GSS}	V _{GS} = ±20V	--	--	±100	nA
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	1.7	2	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 4A	--	13	20	mΩ
		V _{GS} = 4.5V, I _D = 4A	--	21	30	
Forward Transconductance	g _{FS}	V _{DS} =5V,I _D =3A	--	30	--	S
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 15V, f = 1.0MHz	--	681	--	pF
Output Capacitance	C _{oss}		--	219	--	
Reverse Transfer Capacitance	C _{rss}		--	175	--	
Total Gate Charge	Q _g	V _{DD} = 15V, I _D = 5.6A, V _{GS} = 10V	--	15	--	nC
Gate-Source Charge	Q _{gs}		--	2	--	
Gate-Drain Charge	Q _{gd}		--	4	--	
Turn-on Delay Time	t _{d(on)}	V _{DD} = 15V, I _D = 5A, R _G = 3Ω	--	5	--	ns
Turn-on Rise Time	t _r		--	3.5	--	
Turn-off Delay Time	t _{d(off)}		--	19	--	
Turn-off Fall Time	t _f		--	3.5	--	
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I _S	T _C = 25°C	--	--	8	A
Body Diode Voltage	V _{SD}	T _J = 25°C, I _{SD} = 3A, V _{GS} = 0V	--	--	1.2	V
Reverse Recovery Time	T _{rr}	I _S = 3A, V _{GS} = 0V di/dt=500A/us	--	8	--	ns

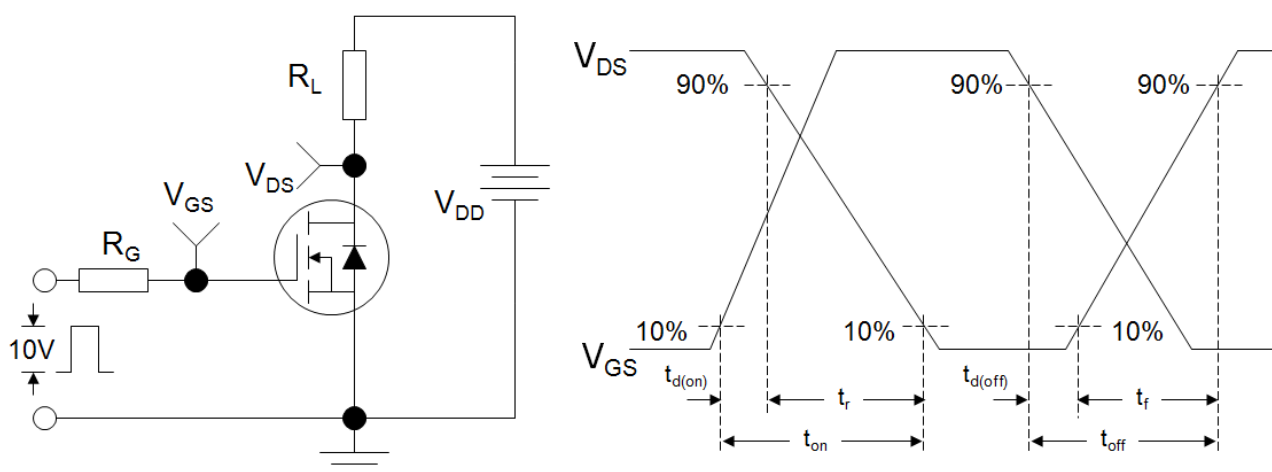
Notes

1. Repetitive Rating: Pulse width limited by maximum junction temperature
2. Identical low side and high side switch with identical R_G

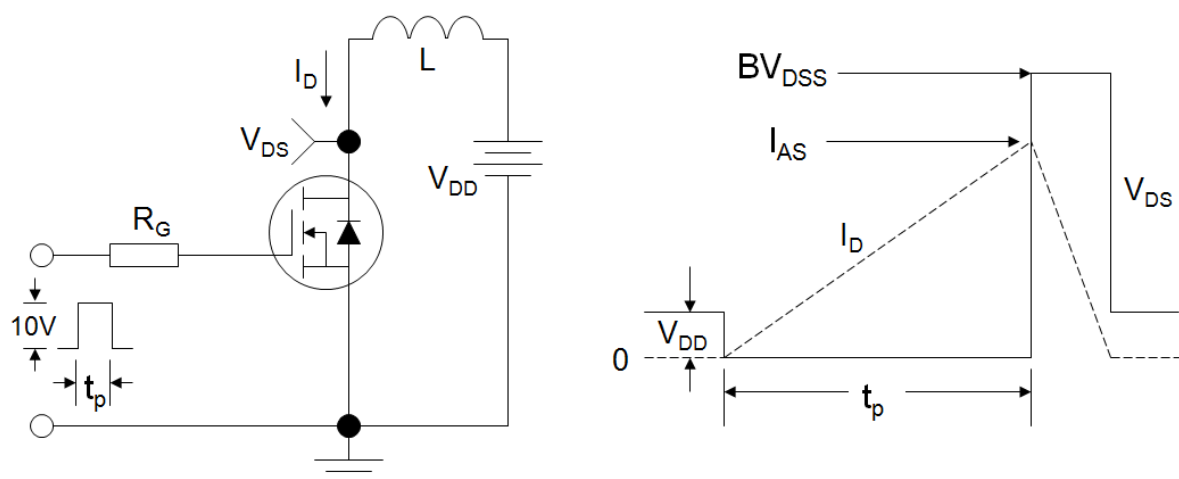
Gate Charge Test Circuit



Switch Time Test Circuit



EAS Test Circuit



Typical Characteristics $T_J = 25^\circ\text{C}$, unless otherwise noted

Figure 1. Output Characteristics

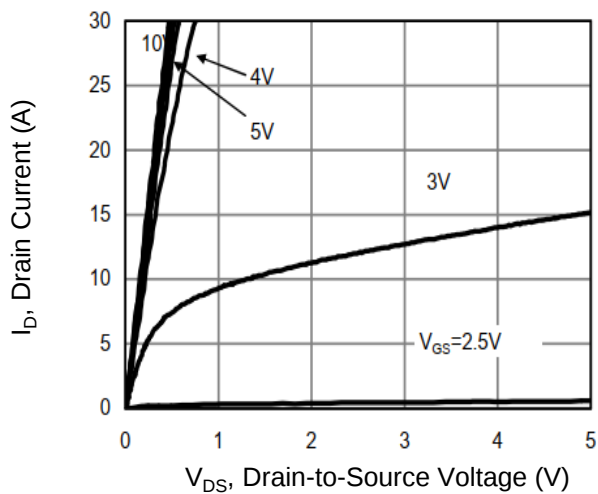


Figure 2. Transfer Characteristics

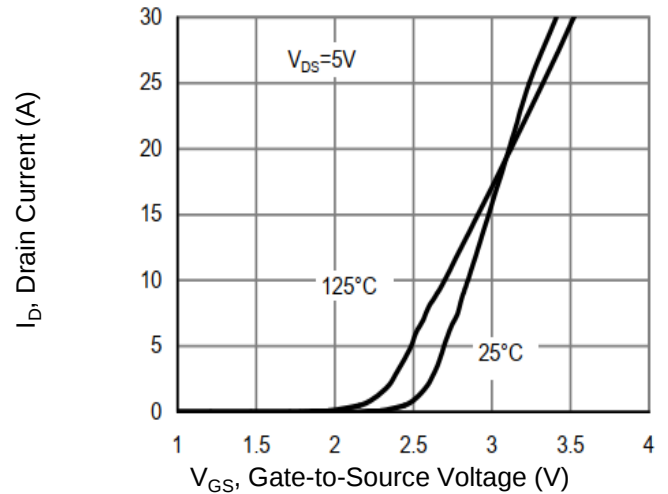


Figure 3. Gate Charge

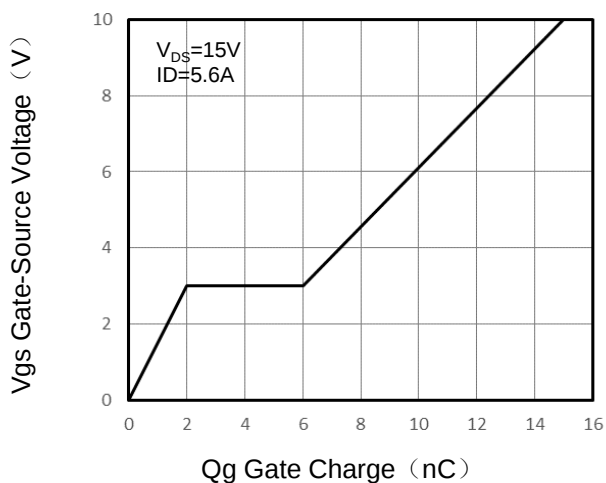


Figure 4. Drain Source On Resistance

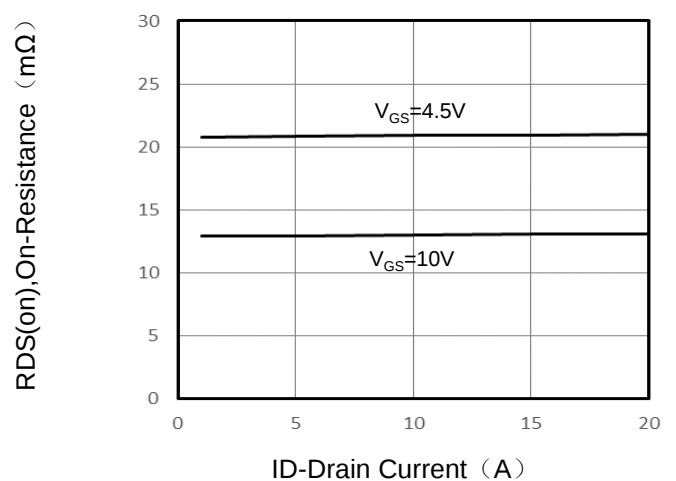


Figure 5. Capacitance

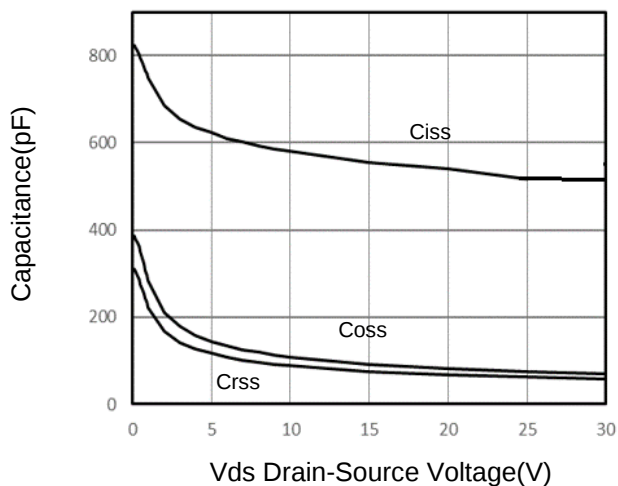
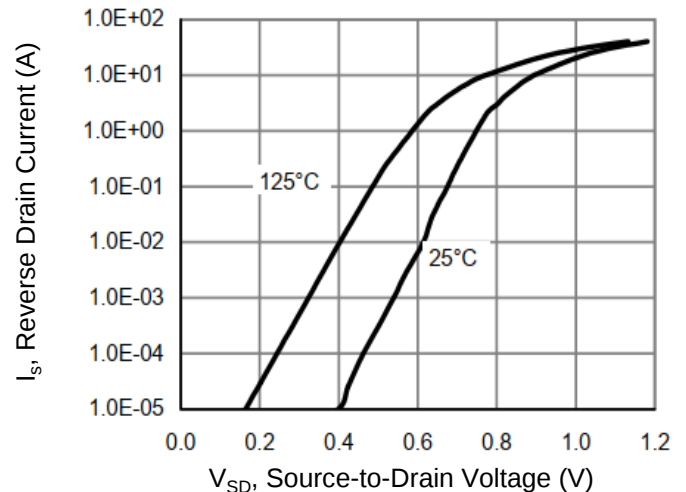


Figure 6. Source-Drain Diode Forward



Typical Characteristics $T_J = 25^\circ\text{C}$, unless otherwise noted

Figure 7. Drain-Source On-Resistance

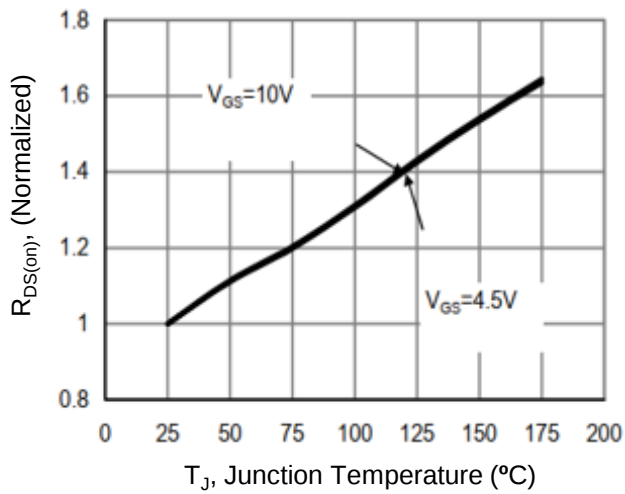


Figure 8. Safe Operation Area

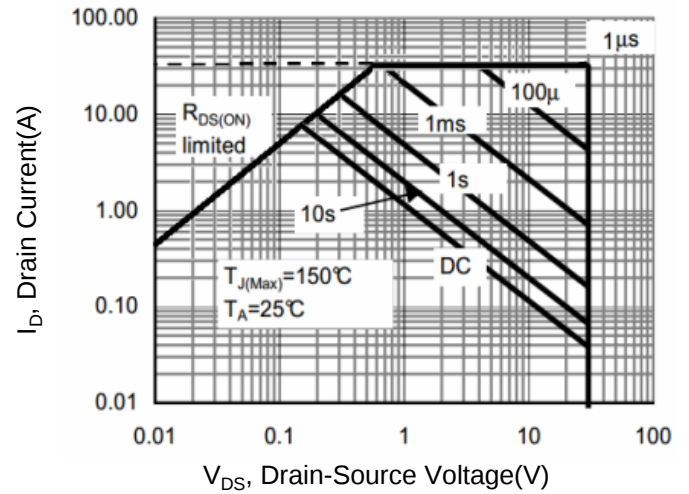
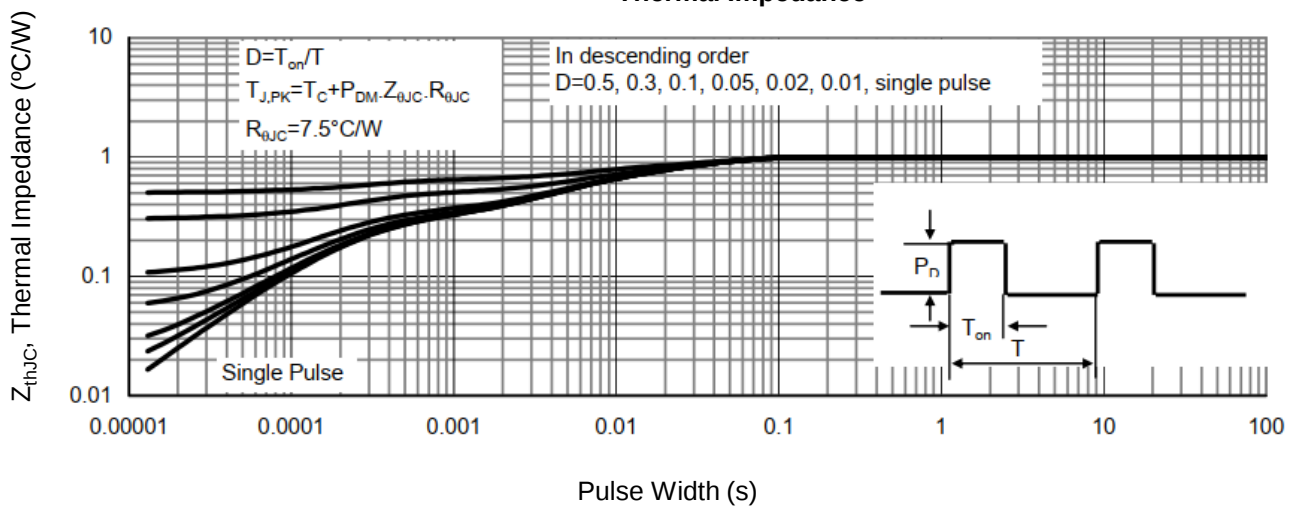
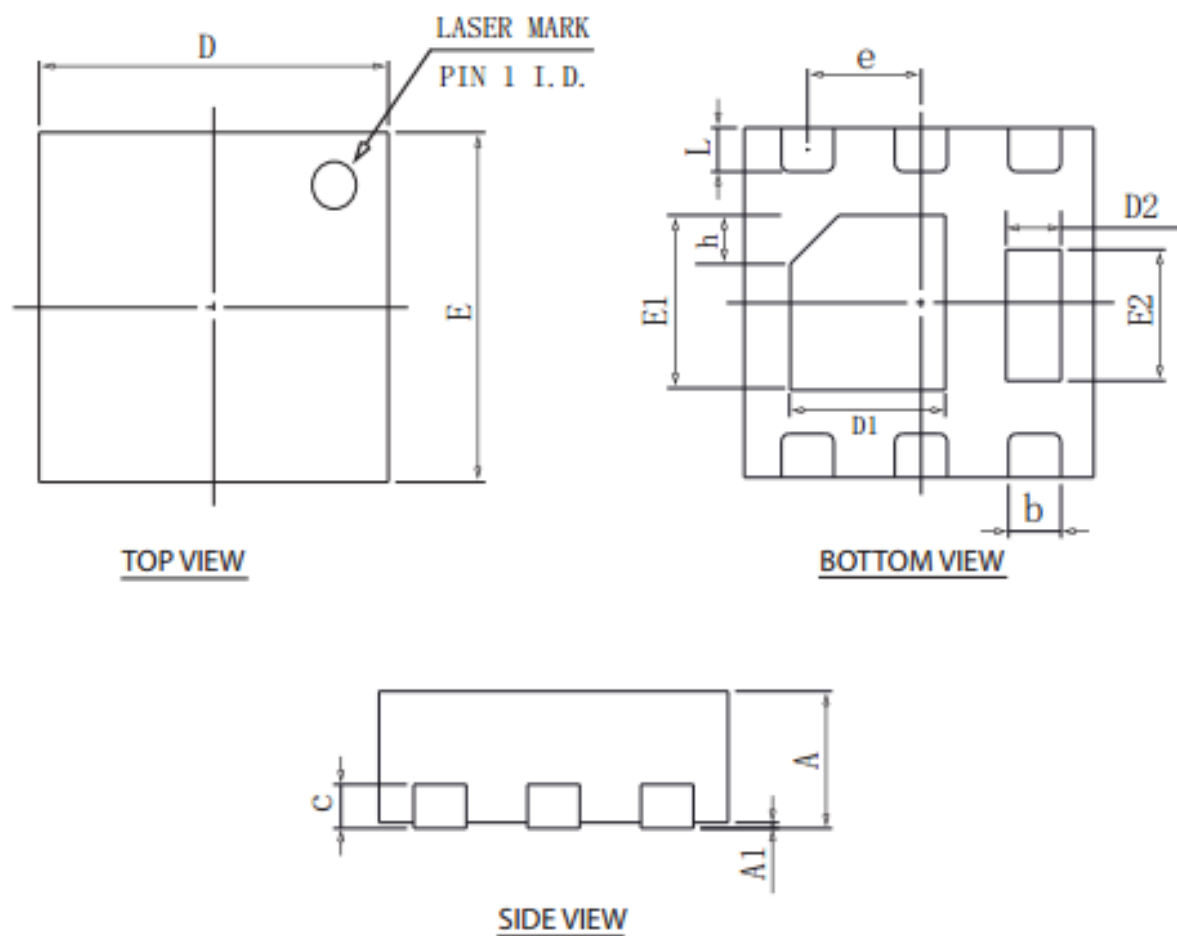


Figure 9. Normalized Maximum Transient Thermal Impedance



DFN2×2-6L Package Information



COMMON DIMENSIONS

SYMBOL	mm		
	MIN	NOM	MAX
A	0.70	0.75	0.80
A1	NA	0.02	0.05
b	0.20	0.27	0.34
c	0.18	0.20	0.25
D	1.95	2.00	2.07
E	1.95	2.00	2.07
D1	0.80	0.90	1.00
E1	0.90	1.00	1.10
D2	0.20	0.30	0.40
E2	0.65	0.75	0.85
L	0.20	0.25	0.35
h	0.20	0.25	0.30
e	0.65BSC		