
284 64.634 TD [(A)]TJ ET 2022 04.28 0. 0 0 0 sc ALLDL 16.787 40c 0 0 r 7 10.56 0 0 Tm3 SC 0 Tr5 0 0 0 sc 0 0 00 15.284 64.634 T

/ Descriptions

TO-220F N 650V

N-CHANNEL 650V Super-Junction Power MOSFET in a TO-220F Plastic Package.

/ Features

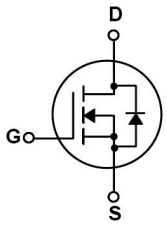
$R_{DS(on)}$×Qg 100% ROHS

Very low $R_{DS(on)}$×Qg,100%avalanche tested,RoHS compliant.

/ Applications

For switch mode power supply, uninterruptible power supply, power factor correction.

/ Equivalent Circuit



/ Pinning

PIN1 G PIN 2 D PIN 3 S

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

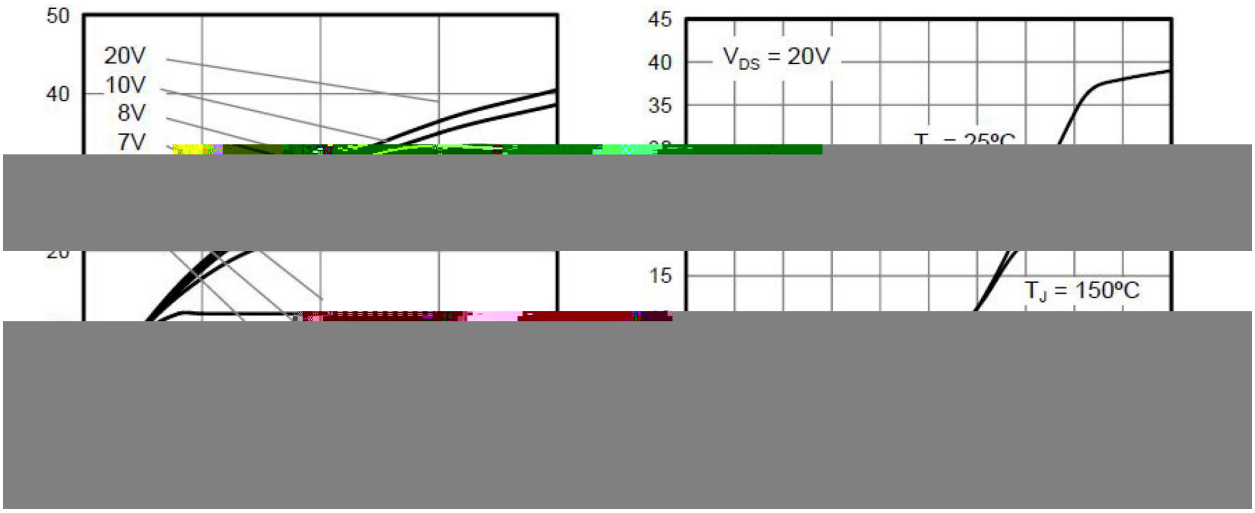
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	650	V
Drain Current	I_D(Tc=25℃)	14	A
Drain Current - Pulsed	I_{DM}	56	A
Gate-Source Voltage	V_{GS}	±30	V
Single Pulsed Avalanche Energy	E_{AS}	433	mJ
Avalanche Current	I_{AS}	10	A
Power Dissipation	P_D(Tc=25℃)	30	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	℃
Junction-to-Case	$R_{\theta JC}$	4.2	℃/W
Junction-to-Ambient	$R_{\theta JA}$	65	℃/W

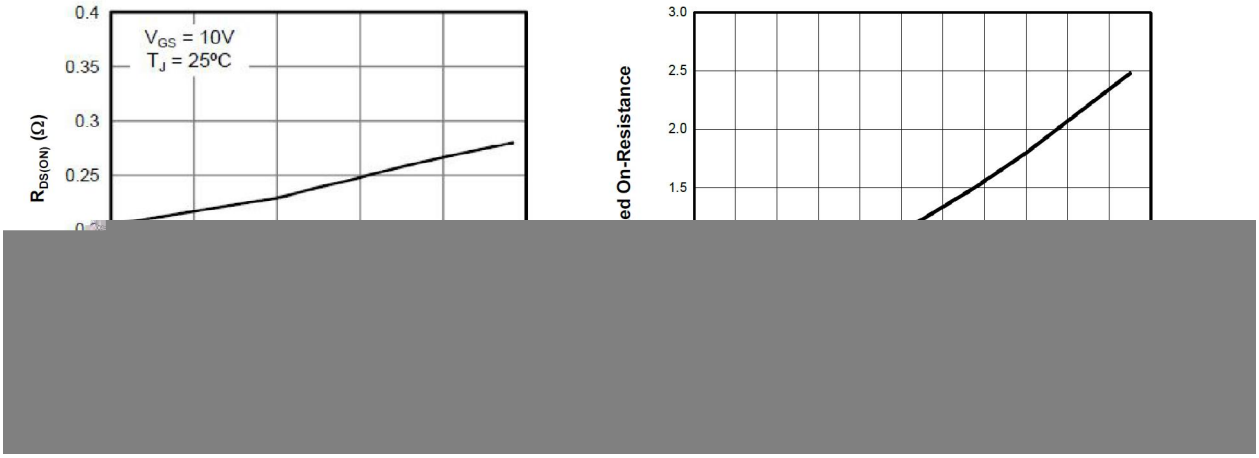
/ Electrical Characteristics(Ta=25)

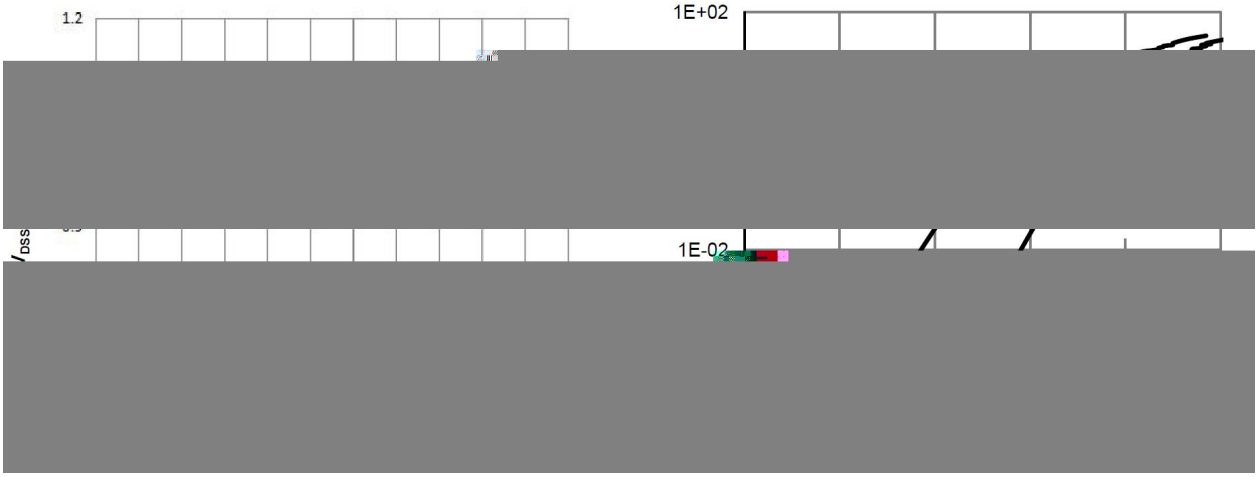
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	650	700		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V T_J=25℃	V_{GS}=0V			1.0	μA
Gate-Body Leakage Current, Forward	I_{GSS}	V_{GS}=±30V				±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	2.5	3.3	4.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=5.5A		235	280	mΩ
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V T_J=25℃	I_{SD}=1A			1.2	V
Gate Resistance	R_g	V_{GS} = 0V	f = 1.0MHz		3.7		Ω
Input Capacitance	C_{iss}	V_{DS}=100V f=1.0MHz	V_{GS}=0V		995		pF
Output Capacitance	C_{oss}				50		pF
Reverse Transfer Capacitance	C_{rss}				0.87		pF
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=400V R_G=25Ω	I_D=7.5A V_{GS}=10V		20		ns
Turn-On Rise Time	t_r				40		ns
Turn-Off Delay Time	$t_{d(off)}$				95		ns
Turn-Off Fall Time	t_f				43		ns

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous						

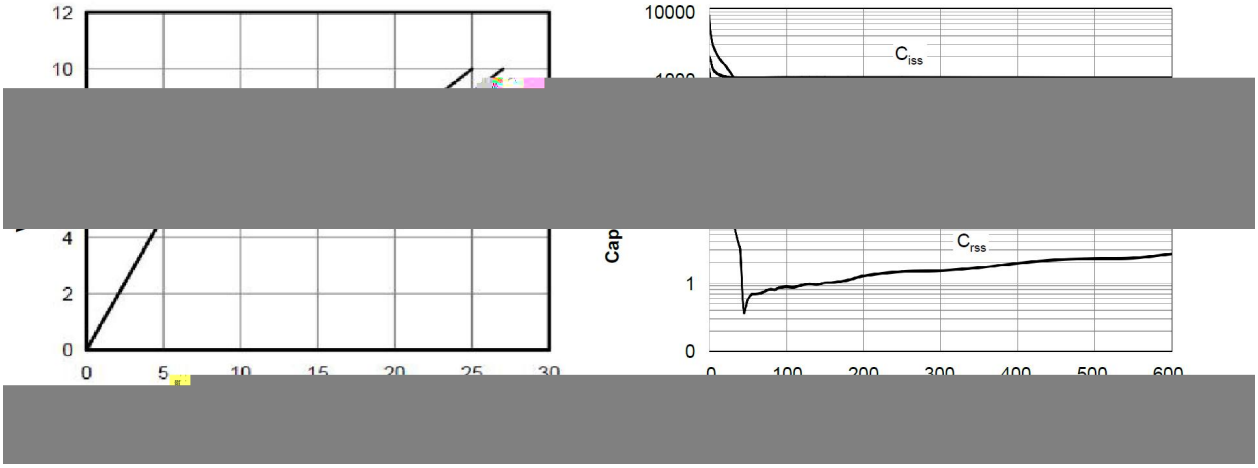
/ Electrical Characteristic Curve

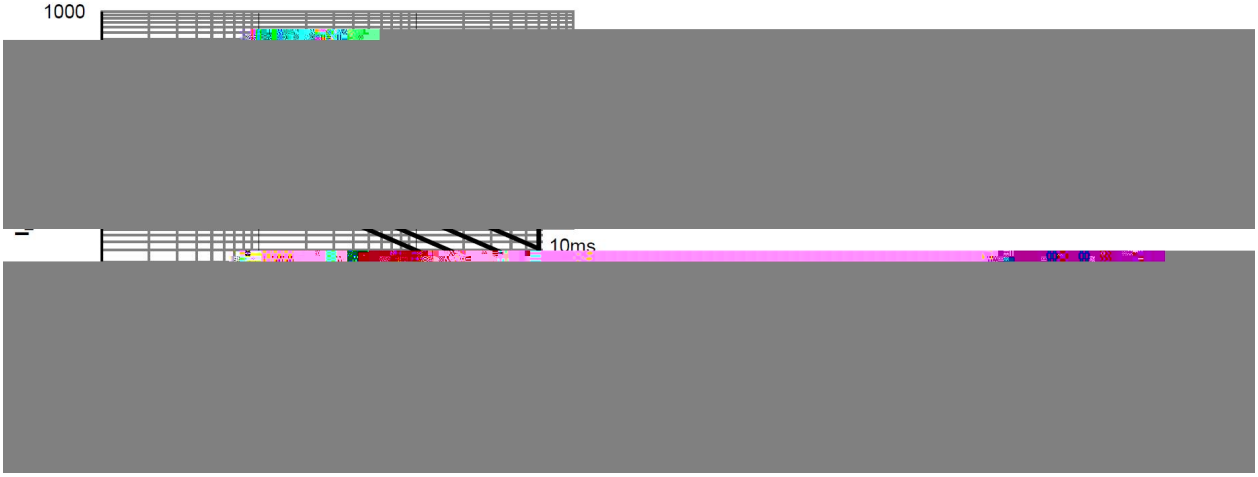




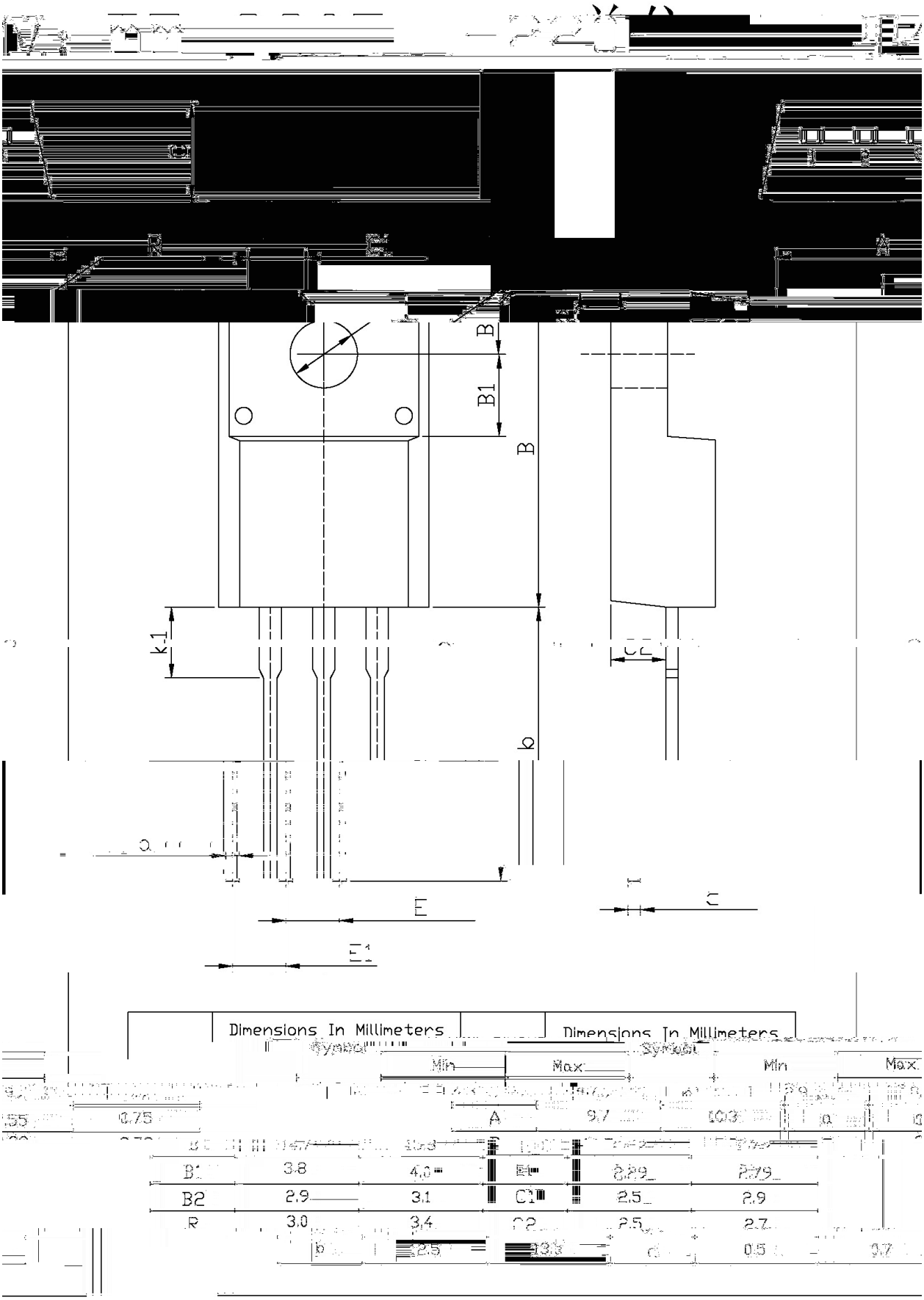


/ Electrical Characteristic Curve

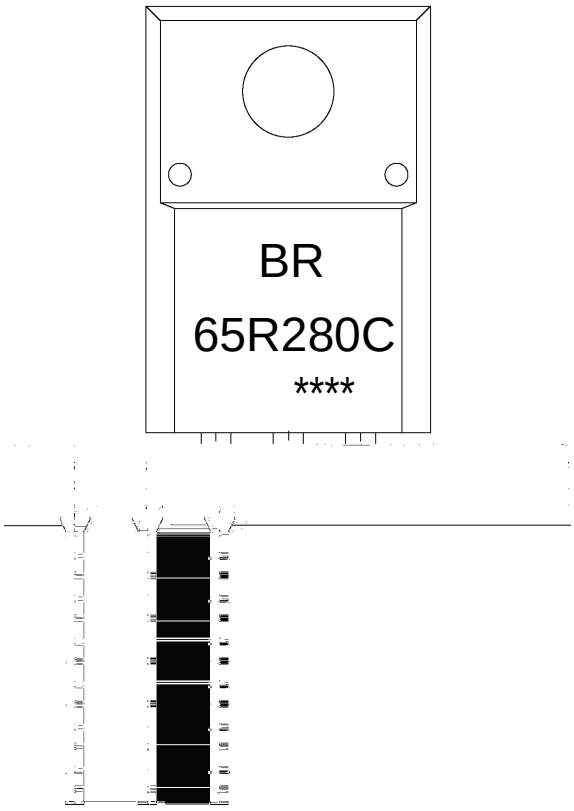




/ Package Dimensions



/ Marking Instructions



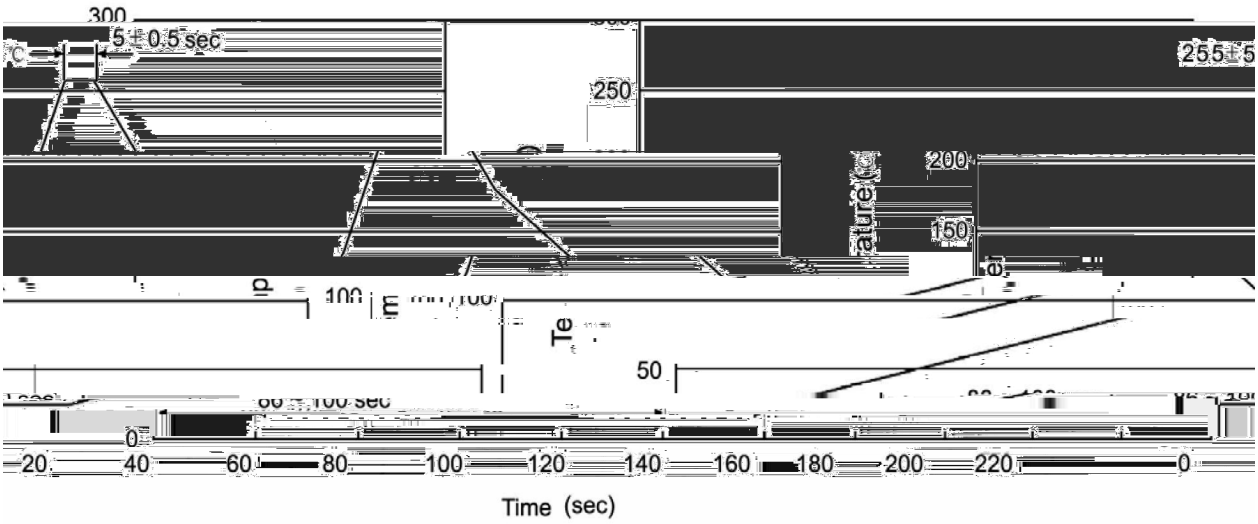
说明：

BR：	为公司代码
65R280C：	为型号代码
****：	为生产批号代码，随生产批号变化

Note:

BR:	Company Code
65R280C:	Product Type
****:	Lot No. Code, code change with Lot No

( ) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

1、预热温度 25～150℃，时间 60～90sec;

2、峰值温度 255±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:25~150℃, Time:60~90sec.

2.Peak Temp.:255±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

/ Resistance to Soldering Heat Test Conditions

温度：270±5℃　　时间：10±1 sec.　　Temp.:270±5℃　　Time:10±1 sec

/ Packaging SPEC.

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag 袋	Inner Box 盒	Outer Box 箱