BRCS90P03DP

Rev.A .May.-2019

TO-252 P

P-CHANNEL MOSFET in a TO-252 Plastic Package.

/ Electrical Characteristics(Ta=25)

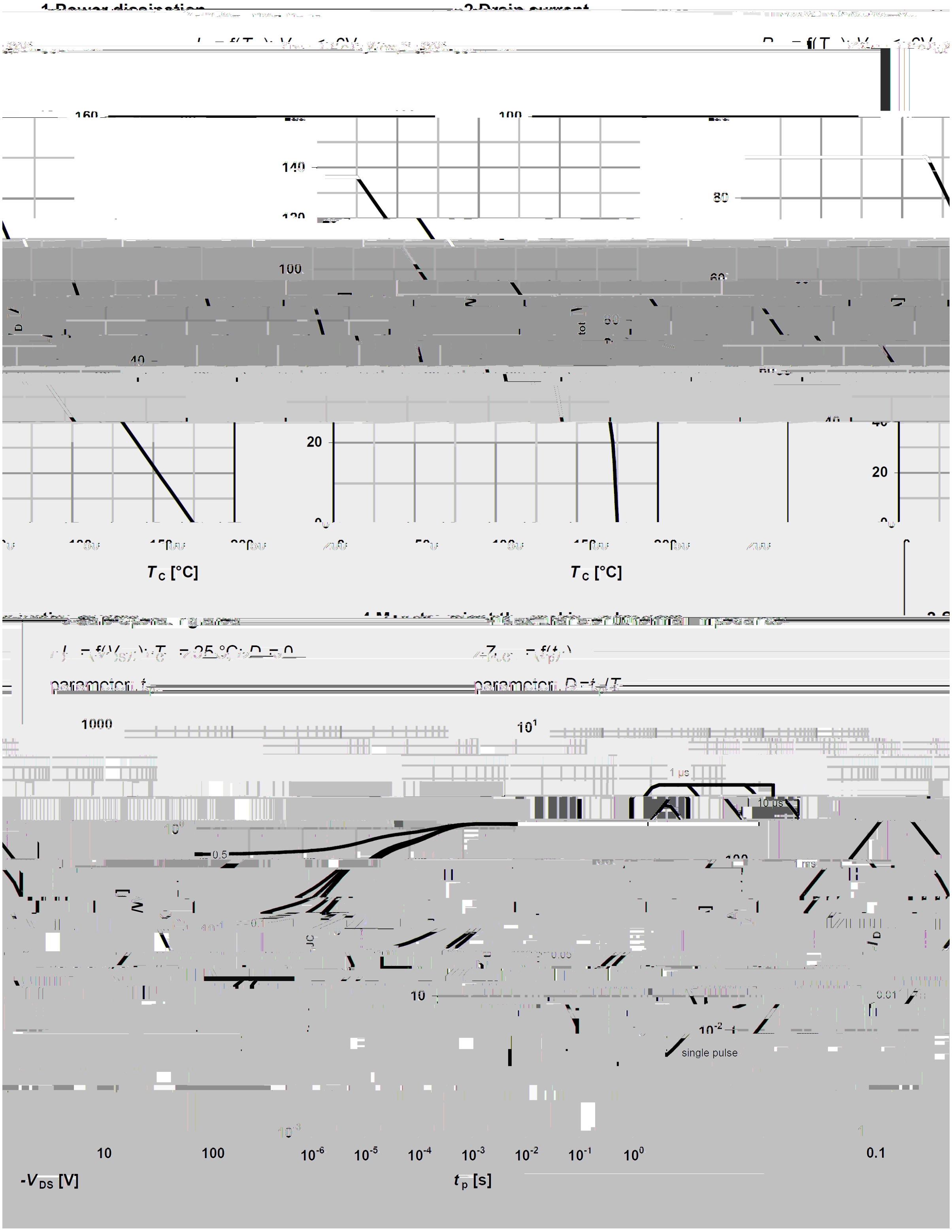
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate to source charge	Q_{gs}	V_{DD}=-24V, I $_{D}$=-90A, $V_{GS=}$0 to -10V		42	55	nC
Gate to drain charge	Q_{gd}			10	20	nC
Gate charge total	Q_{g}			100	130	nC
Gate plateau voltage	$V_{plateau}$			-5.3		V
Diode continous forward current$^{2)}$	I_{S}	T $_{C}$=25°C			-90	A
Diode pulse current$^{2)}$	$I_{S,pulse}$				-360	A
Reverse recovery time$^{2)}$	t_{rr}	V_{R}=-15V, I_{F}=-50A, di_{F}/dt =-100A/ s		50		nS
Reverse recovery charge$^{2)}$	Q_{rr}			70		nC

1) Current is limited by bondwire; with an R $_{JC}$ = 1.1K/W the chip is able to carry -143A at 25°C.

2) Defined by design. Not subject to production test.

3) Device on 40 mm x 40 mm x 1.5 mm epoxy PCB FR4 with 6 cm2 (one layer, 70 m thick) copper area for drain connection. PCB is vertical in still air.

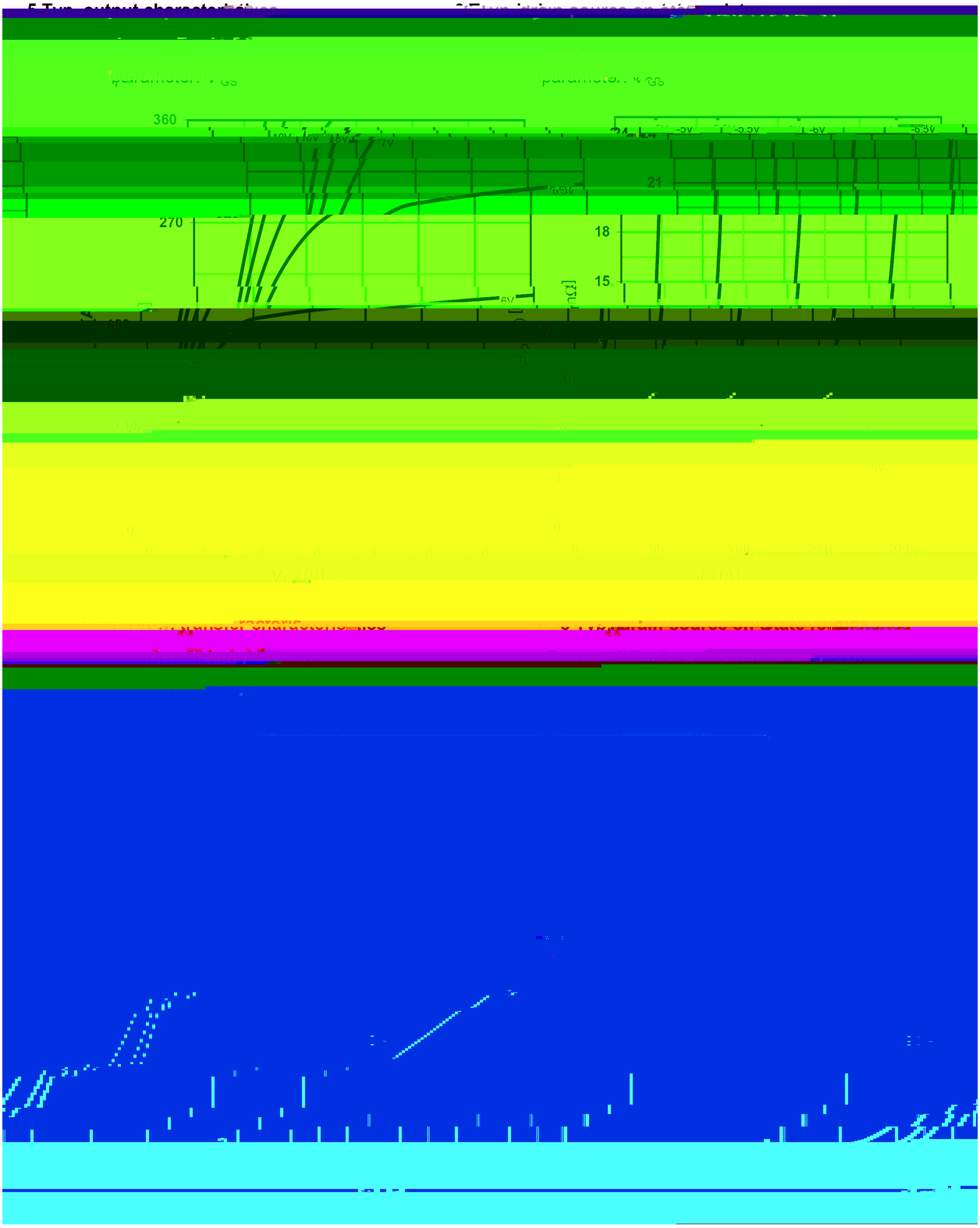
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

5 Typ. output characteristics

6 Typ. drain-source on state resistance



7 Typ. transfer characteristics

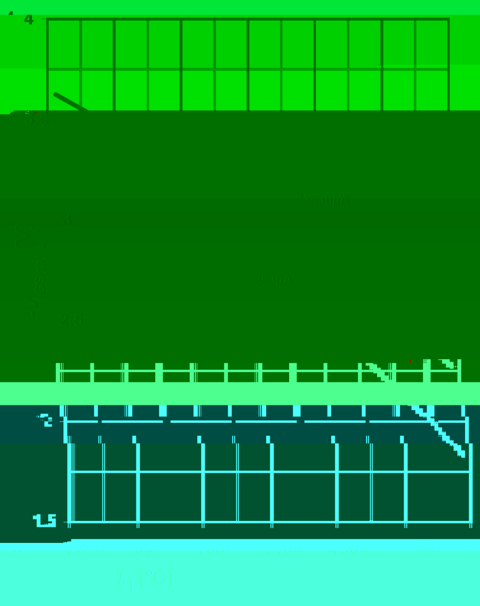
8 Typ. drain-source on state resistance

/ Electrical Characteristic Curve

9 Typ. gate threshold voltage

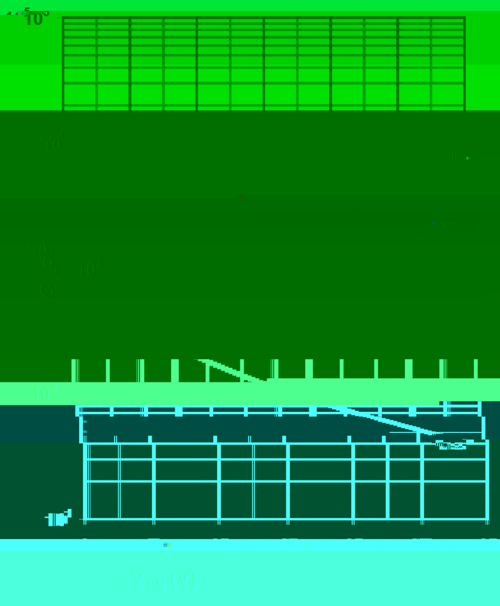
$V_{GS(th)} = f(T_j)$; $V_{GS} = V_{DS}$

parameter: $-I_D$



10 Typ. capacitances

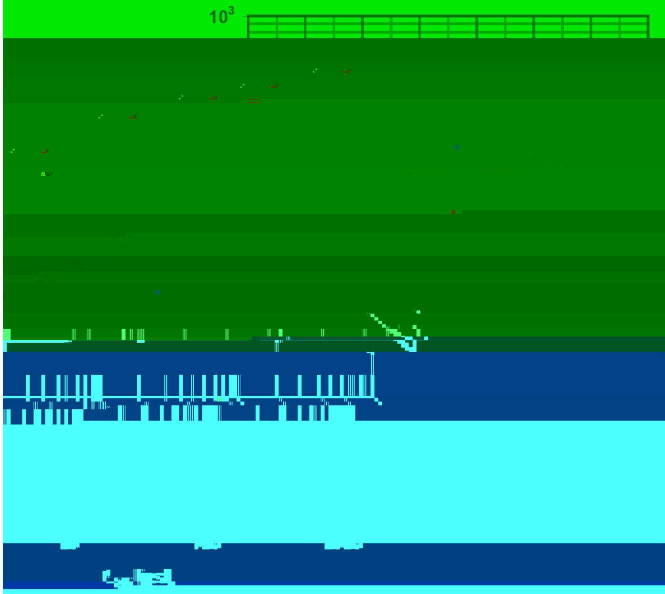
$C = f(V_{DS})$; $V_{GS} = 0$ V; $f = 1$ MHz



11 Typ. forward diode characteristics

$I_F = f(V_{SD})$

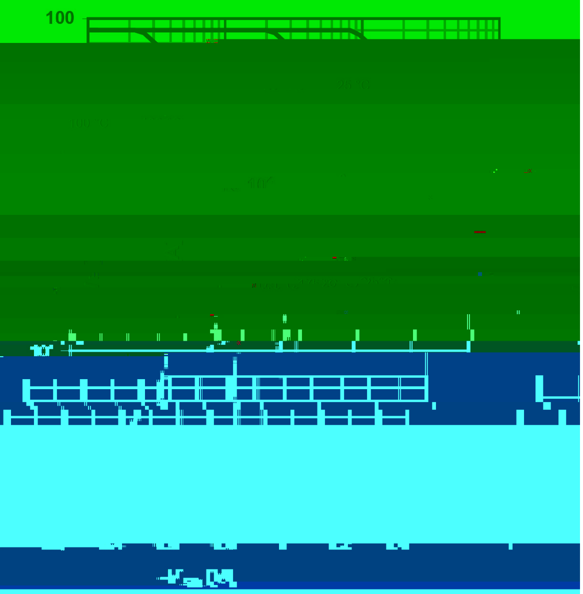
parameter: T_j



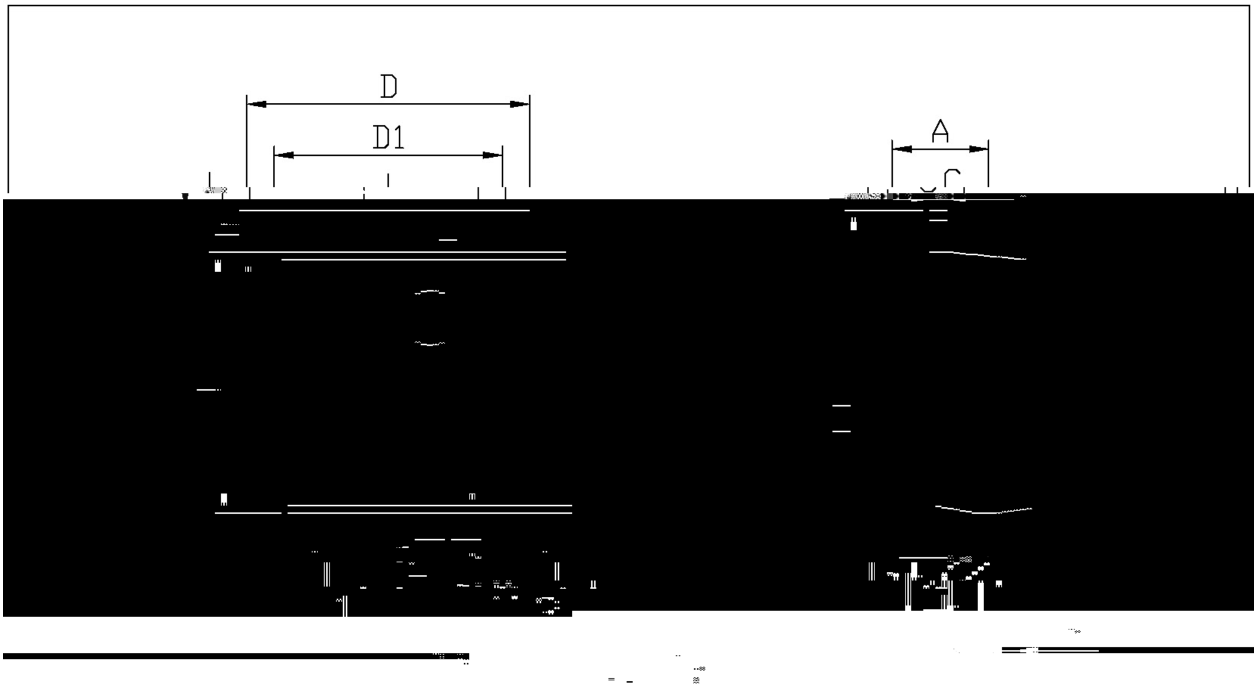
12 Avalanche characteristics

$I_{AS} = f(t_{AV})$

parameter: $T_{j(start)}$



/ Package Dimensions

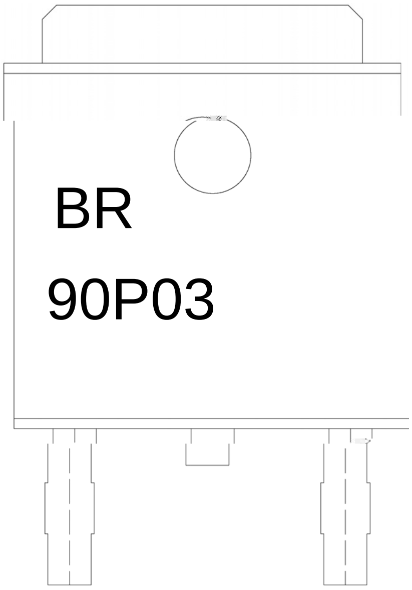


0.60	0.90
0.00	0.10

C	0.45	0.55	L2
D	6.45	6.75	L3
D1	5.10	5.50	K

TO-252

/ Marking Instructions



BR

90P03

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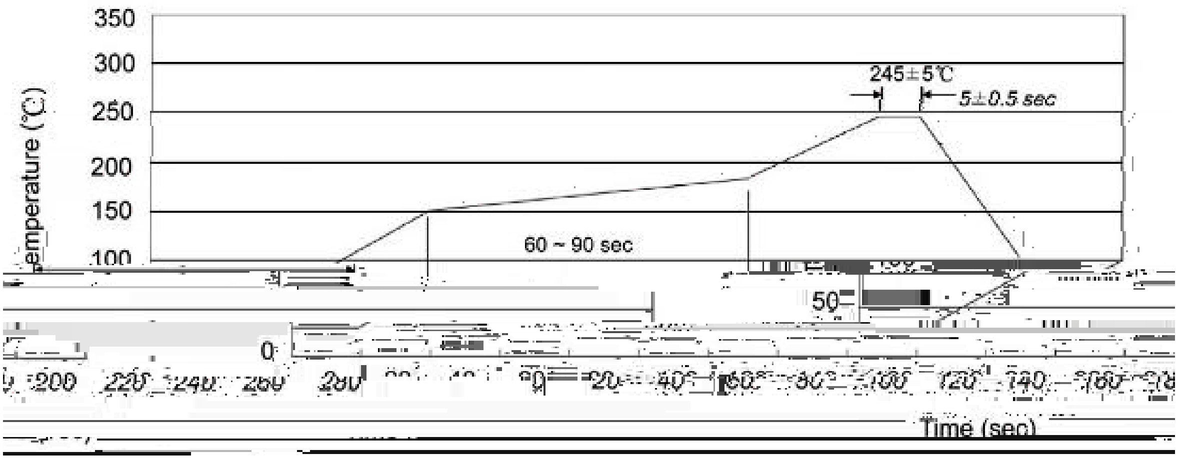
Note:

BR:	Company Code
90P03:	Product Type.
****:	Lot No. Code, code change with Lot No.

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



	Note:
1 150 180 60 90sec;	1.Preheating:150~180 , Time:60~90sec.
2 245±5 5±0.5sec;	2.Peak Temp.:245±5 , Duration:5±0.5sec.
3 2 10 /sec.	3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	只 套管	套管 盒	只 盒	盒 箱	只 箱	套管	盒	箱

/ Notices