

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	80	V
Drain Current		$I_D(T_C=25^{\circ}\text{C})$	132	A
Pulsed Drain Current		I_{DM}	276	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	940.8	mJ
Avalanche Current		I_{AS}	42	A
Total Power Dissipation		$P_D(T_C=25^{\circ}\text{C})$	173.6	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	$t \leq 10s$	R_{JA}	15	$\frac{^{\circ}\text{C}}{\text{W}}$
	Steady-State		62	
Thermal Resistance-Junction to Case	Steady-State	R_{JC}	0.72	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\text{ A}$	80	95		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=85V$ $V_{GS}=0V$			1	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	2	3	4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		4.3	5.5	m
	$R_{DS(on)}$	$V_{GS}=6V$ $I_D=10A$		5.8	9	
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Gate resistance	R_g	$f=1\text{MHz}$		1.85		
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1\text{MHz}$		4130		pF
Output Capacitance	C_{oss}			1640		
Reverse Transfer Capacitance	C_{rss}			220		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V,$ $V_{DS}=40V,$ $I_D=20A$		62		nC
Gate Source Charge	Q_{gs}			20		
Gate Drain Charge	Q_{gd}			23		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=40V$ $R_L=2$ $R_{GEN}=3$		23		ns
Turn-On Rise Time	t_r			32		
Turn-Off Delay Time	$t_{d(off)}$			35		
Turn-Off Fall Time	t_f			27		

/ Electrical Characteristic Curve

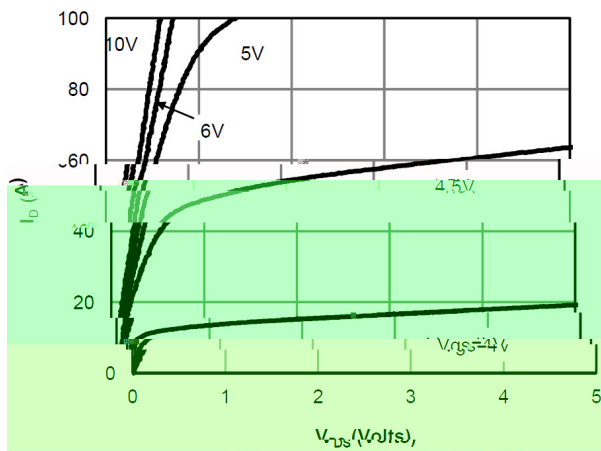


Fig 1: On-Region Characteristics

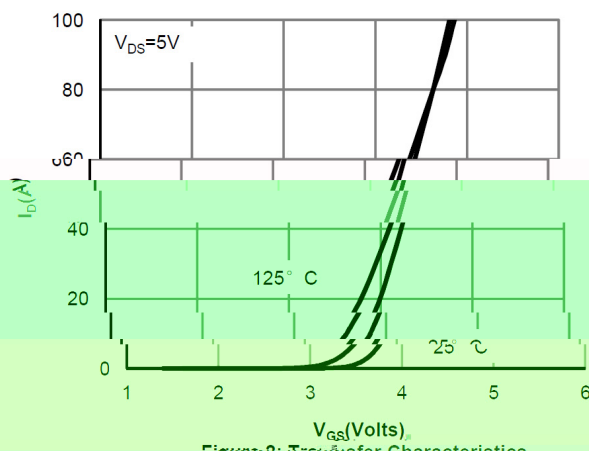


Figure 2: Transfer Characteristics

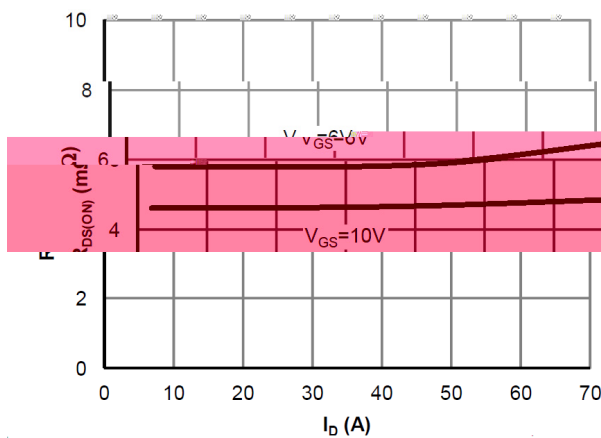


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

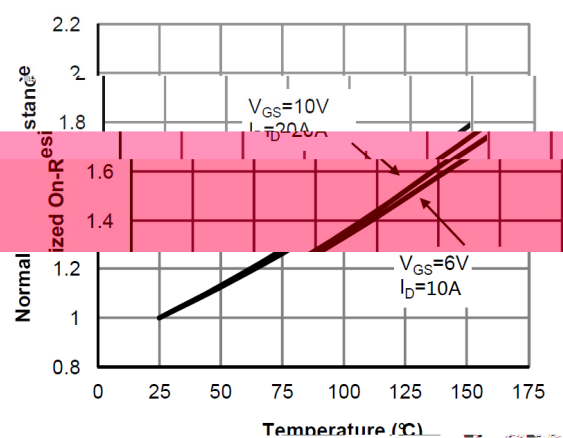
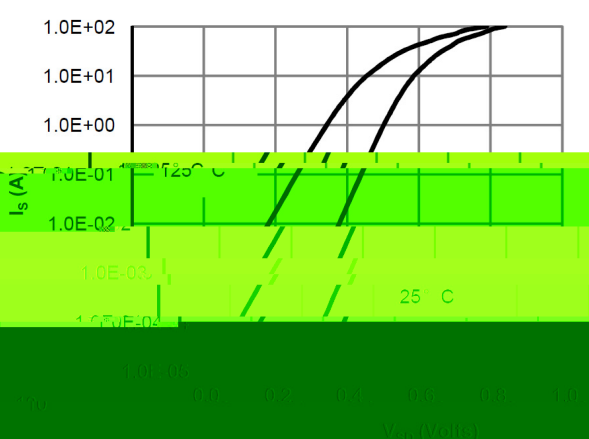
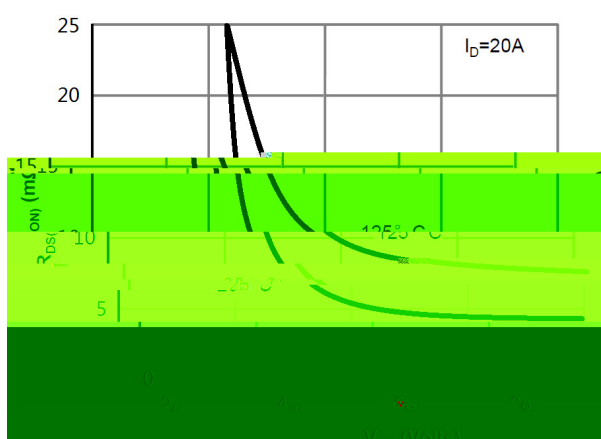


Figure 4: On-Resistance vs. Junction Temperature



Electrical Characteristic Curve

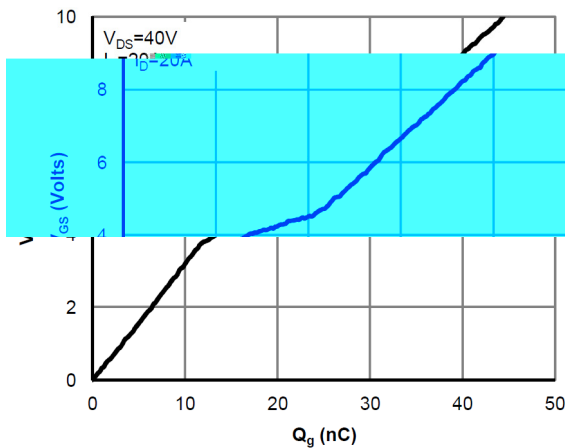


Figure 7: Gate-Charge Characteristics

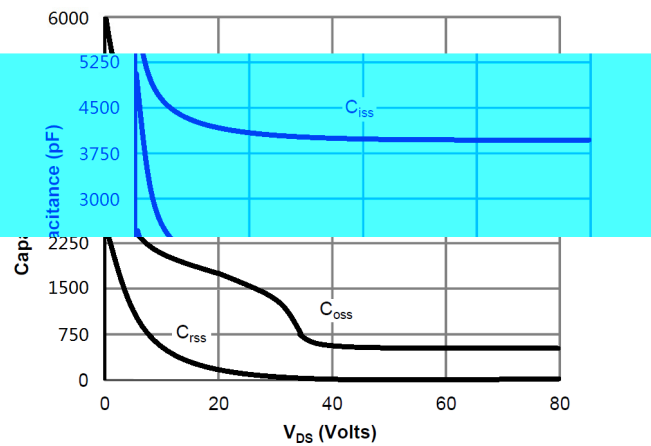


Figure 8: Capacitance Characteristics

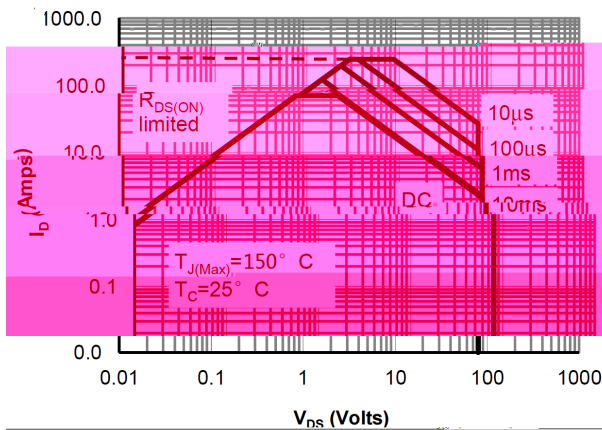


Figure 9: Maximum Drain Current vs Vds (Volts)

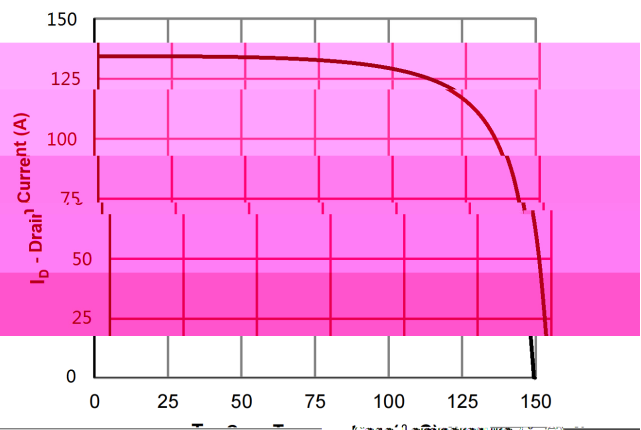


Figure 10: Maximum Continuous Drain Current vs Case Temperature

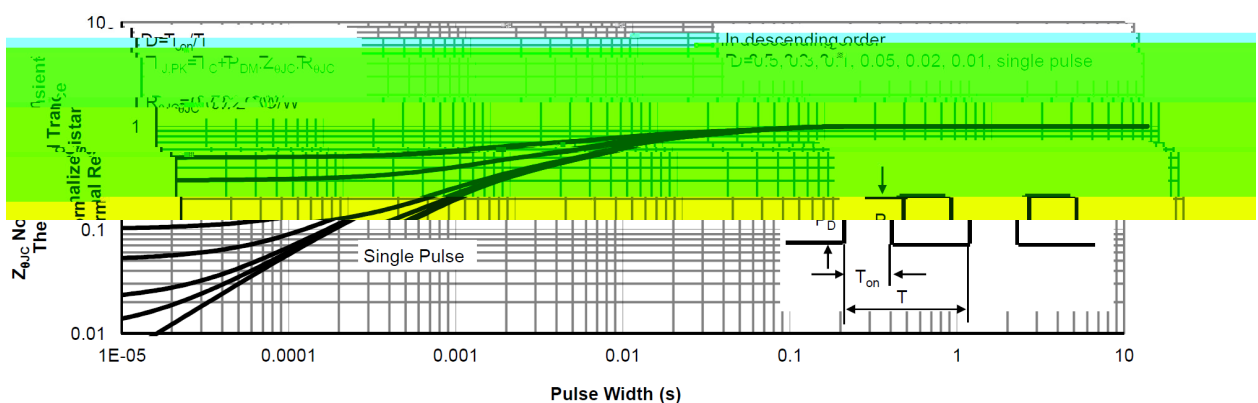
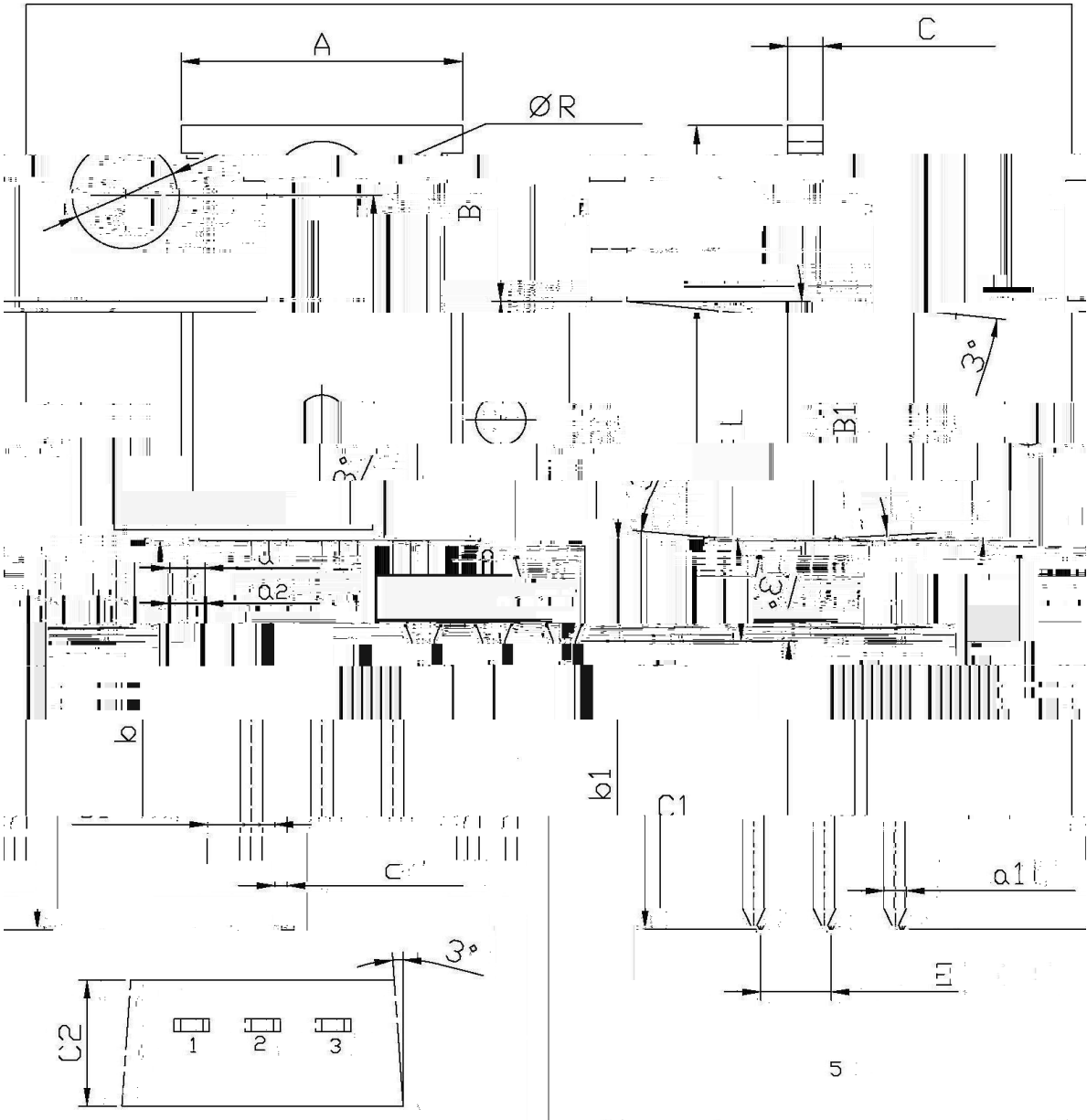


Figure 11: Normalized Maximum Transient Thermal Impedance

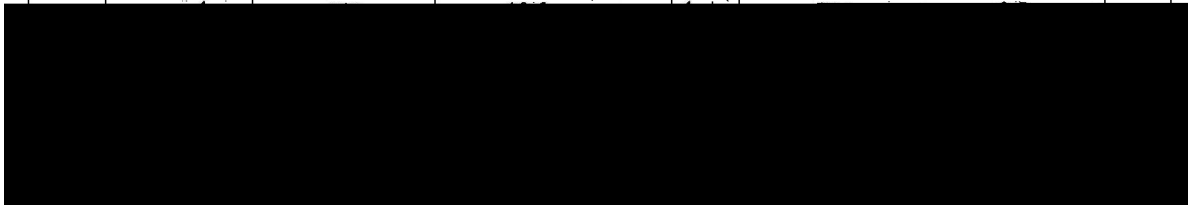
/ Package Dimensions

TO-220

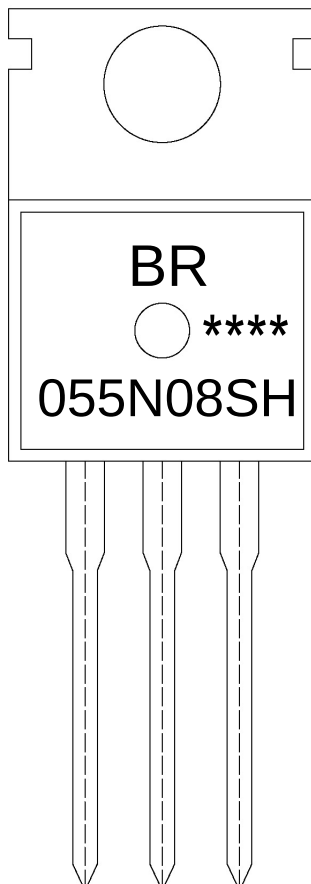
单位: mm



Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	9.8	10.2	C	1.2	1.4
R	3.56	3.64	B	6.3	6.7
L	15.7	16.1	B1	9.0	9.4
b	12.6	13.6	C1	2.2	2.6



/ Marking Instructions



EU

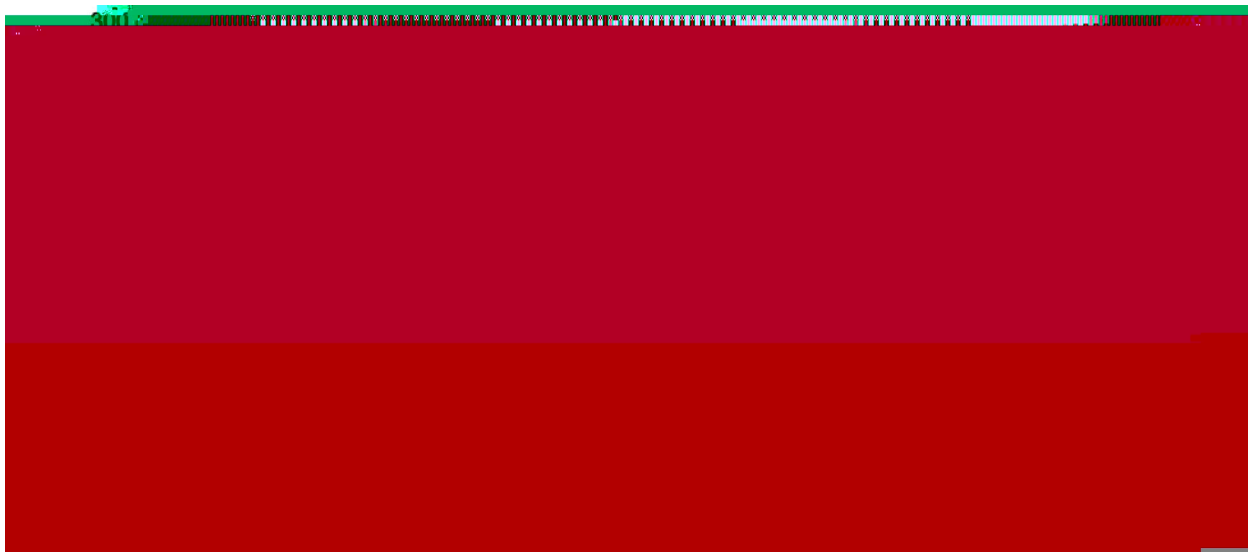
388Q3;VK

Note:

BR: Company Code

055N08SH: Product Type

****: Lot No. Code, code change with Lot No


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


Note:

- | | | | | | |
|---|-----|---|--|---------|---|
| 1 | 25 | 150 $\frac{^{\circ}\text{C}}{\text{sec}}$ | 60 | 90sec; | 1.Preheating:25~150 $\frac{^{\circ}\text{C}}{\text{sec}}$, Time:60~90sec. |
| 2 | 255 | 25 $\frac{^{\circ}\text{C}}{\text{sec}}$ | 5 | 0.5sec; | 2.Peak Temp.:255 $\pm$ 5 $\frac{^{\circ}\text{C}}{\text{sec}}$, Duration:5 $\pm$ 0.5sec. |
| 3 | | 2 | 10 $\frac{^{\circ}\text{C}}{\text{sec}}$ | | 3. Cooling Speed: 2~10 $\frac{^{\circ}\text{C}}{\text{sec}}$. |

/ Resistance to Soldering Heat Test Conditions

270 $\pm$ 5 $\frac{^{\circ}\text{C}}{\text{sec}}$	10 $\pm$ 1 sec.	Temp.:270 $\pm$ 5	Time:10 $\pm$ 1 sec
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/ Packaging SPEC.
/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices