

/ Descriptions

TO-3P

Ultrafast Recovery Diode in a TO-3P Plastic Package.

/ Features

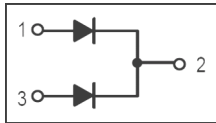
TO-3P

600V

Ultrafast recovery time, popular TO-3P package, low forward voltage, low leakage current, reverse voltage to 600V.

/ Applications

These devices are intended for output rectifiers and flywheel diodes in a variety of high-frequency pulse-width modulated switching regulators. Their low stored charge and attendant fast reverse-recovery behavior minimize electrical noise generation and in many circuits markedly reduce the turn-on dissipation of associated power switching transistors.

/ Equivalent Circuit**/ Pinning**

PIN1 Anode PIN2 Cathode PIN 3 Anode

/ h_{FE} Classifications & Marking

See Marking Instructions

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Average Forward Current(Per diode)	$I_{F(AV)}$	15	A
Average Forward Current(Per device)		30	A
Forward RMS Current	$I_{F(RMS)}$	30	A
Surge non repetitive forward current($t_p=10\text{ms}$ sinusoidal)	I_{FSM}	140	A
Typical Thermal Resistance Junction to Case	$R_{\theta Jc}$	0.85	/W
Coupling	$R_{th(c)}$	0.2	/W
Operating Junction Temperature Range	T_j	175	
Storage Temperature Range	T_{stg}	-65 +175	

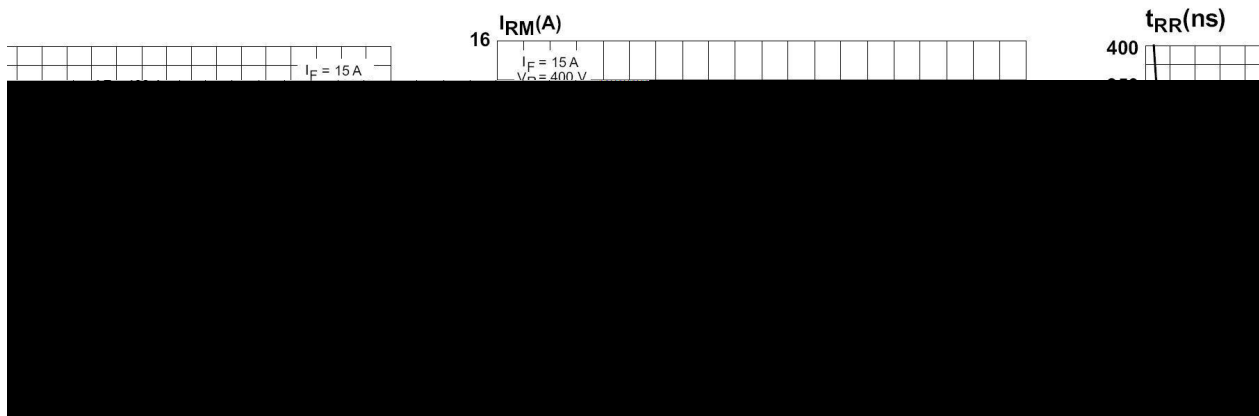
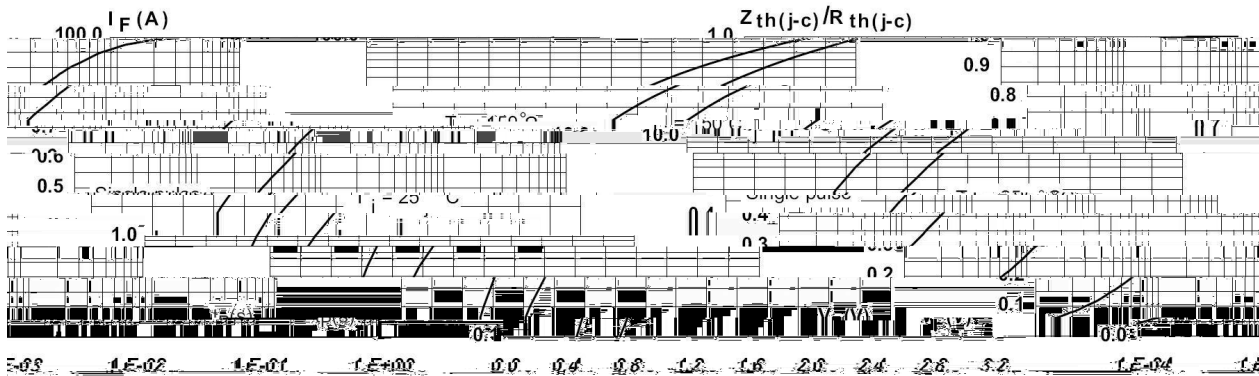
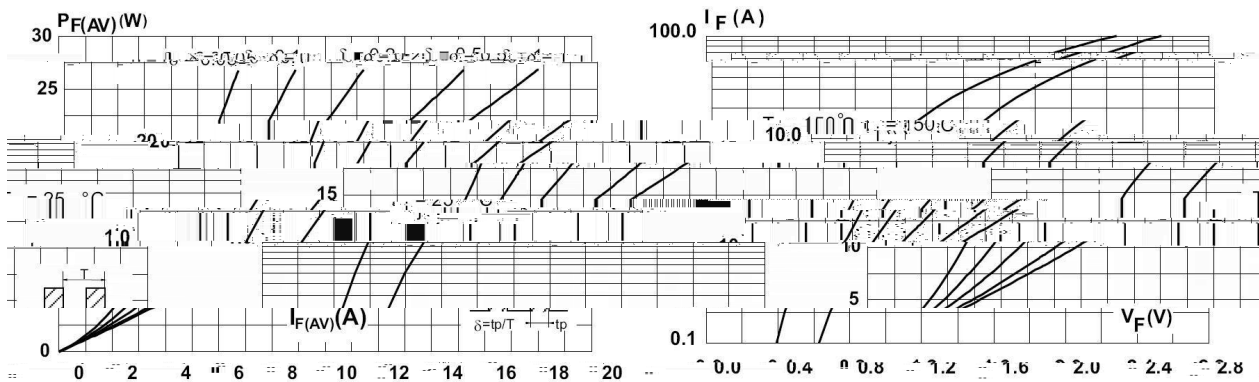
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage ⁽²⁾	V_F	$I_F=15\text{A}$ $T_C=25$			1.95	V
		$I_F=15\text{A}$ $T_C=150$		1.15	1.45	
		$I_F=30\text{A}$ $T_C=25$			2.25	
		$I_F=30\text{A}$ $T_C=150$		1.42	1.80	
Instantaneous Reverse Current ⁽¹⁾	I_R	$V_R=600\text{V}$ $T_a=25$			10	μA
		$V_R=600\text{V}$ $T_a=150$		40	400	
Reverse recovery current	I_{RM}	$I_F=15\text{A}$ $V_R=400\text{V}$ $dI_F/dt=100\text{A}/\mu\text{s}$ $T_j=125$		4.0	5.5	A
Reverse Recovery Time	t_{rr}	$I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{RR}=0.25\text{A}$		35		ns
		$I_F=1.0\text{A}$ $V_R=30\text{V}$ $dI_F/dt=50\text{A}/\mu\text{s}$		45		
Forward recovery time	t_{fr}	$I_F=15\text{A}$ $V_{FR}=1.9\text{V}$ $dI_F/dt=100\text{A}/\mu\text{s}$			100	ns
Forward recovery voltage	V_{FP}	$T_j=25^\circ\text{C}$		2.5		V

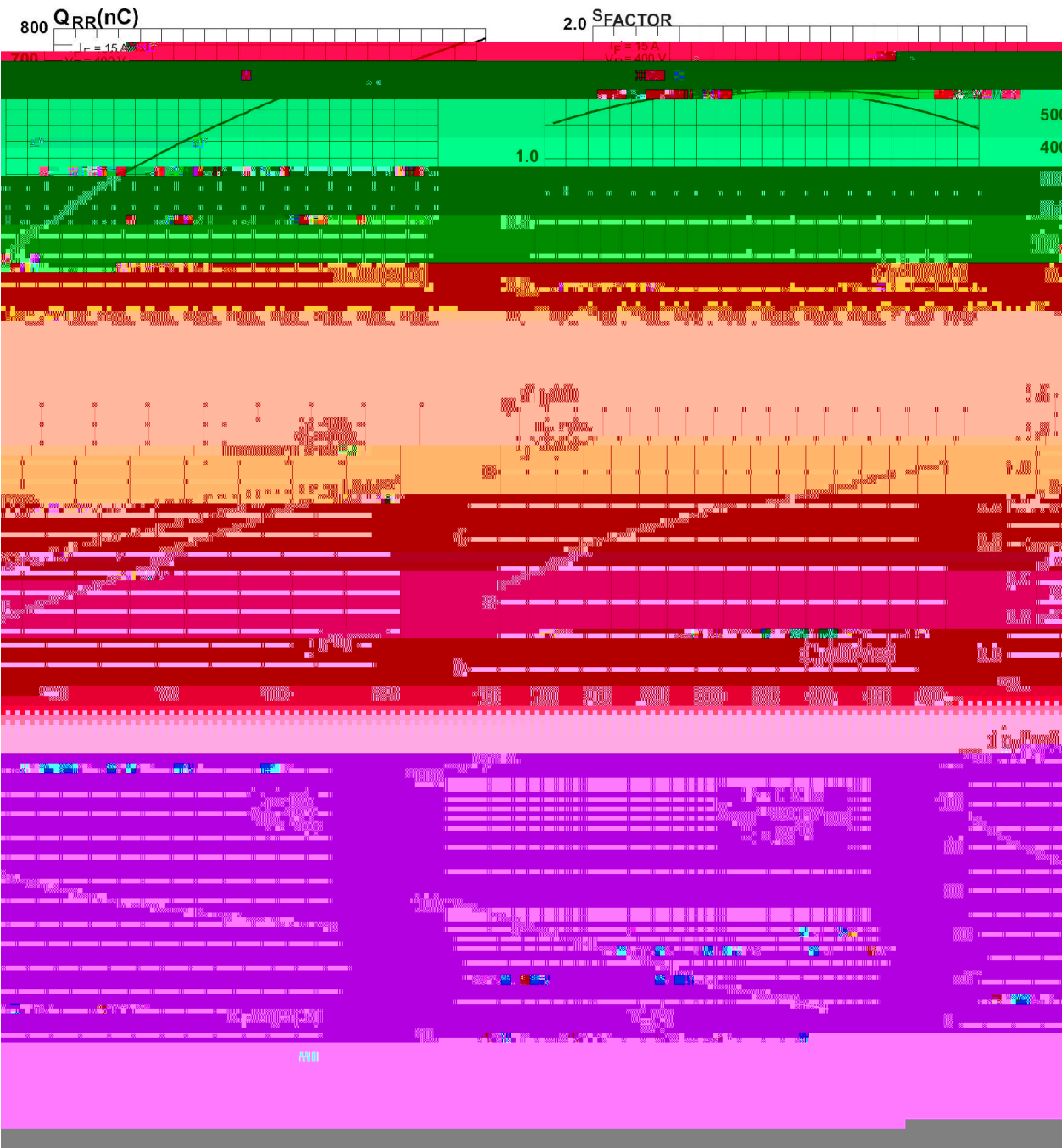
/Notes

1. Pulse test: $t_p = 5\text{ms}$, $< 2\%$
2. Pulse test: $t_p = 380\mu\text{s}$, $< 2\%$

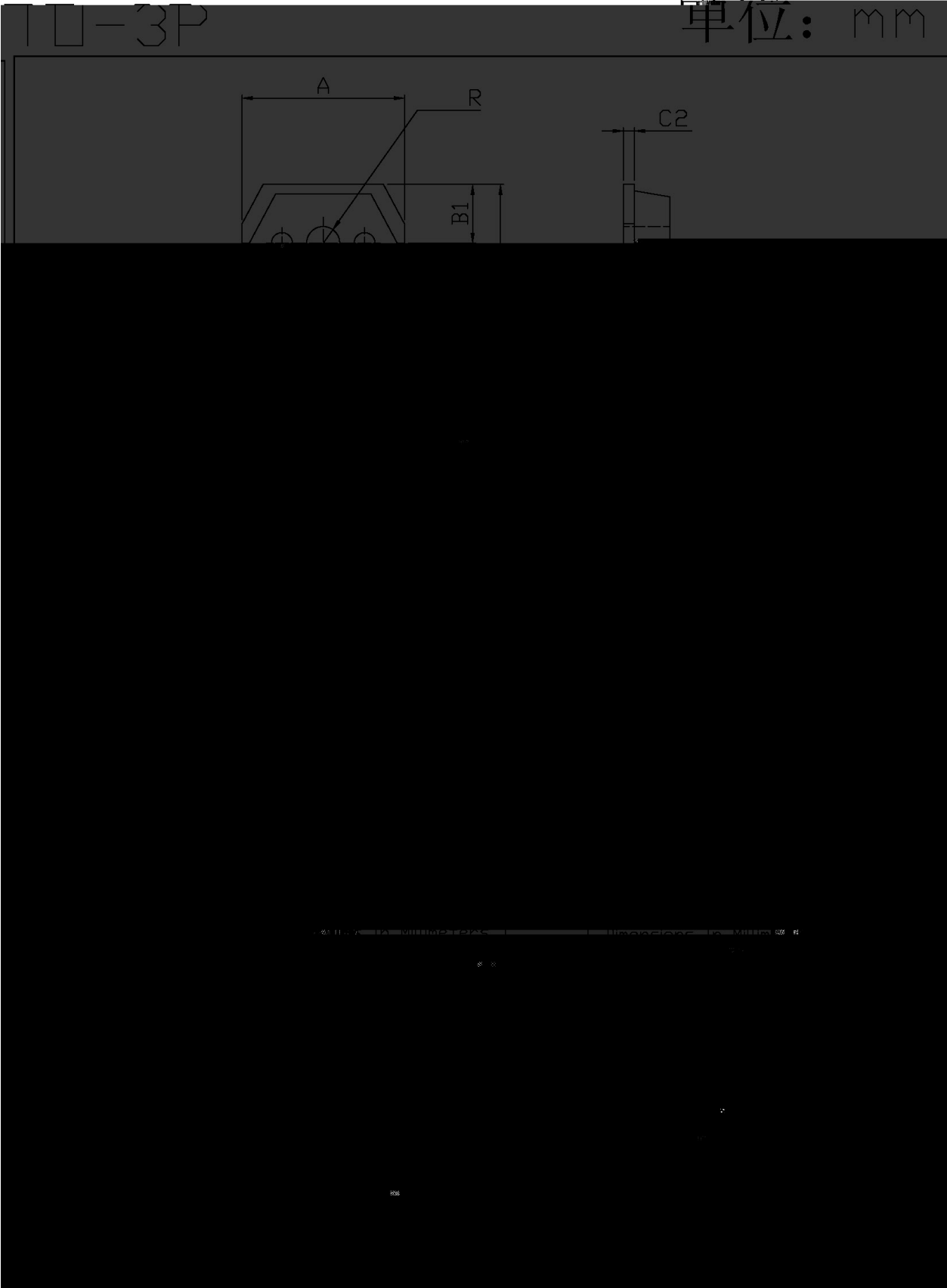
/ Electrical Characteristic Curve



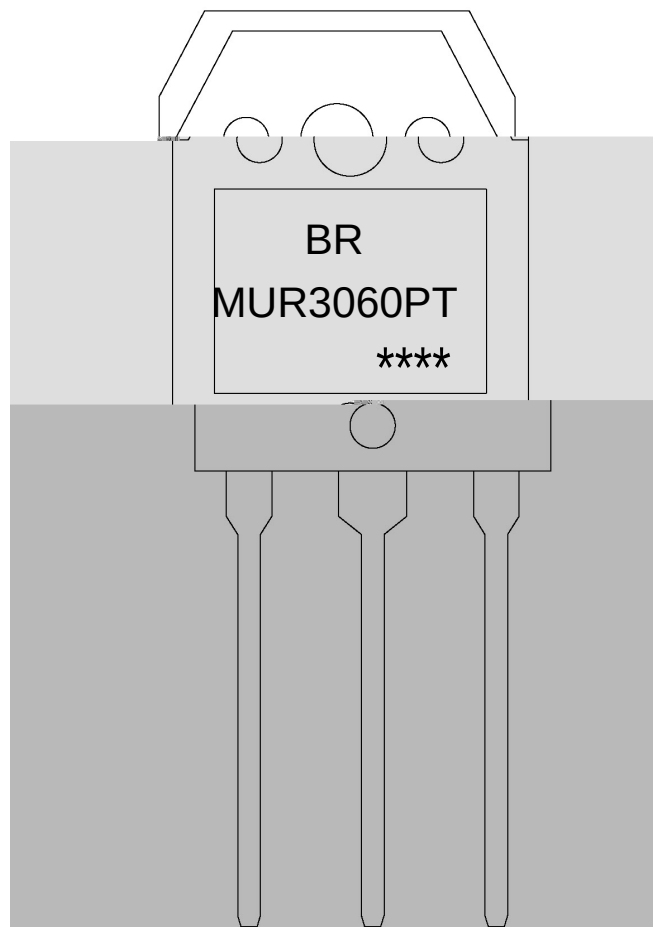
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

MUR3060PT

Note:

BR:

Company Code

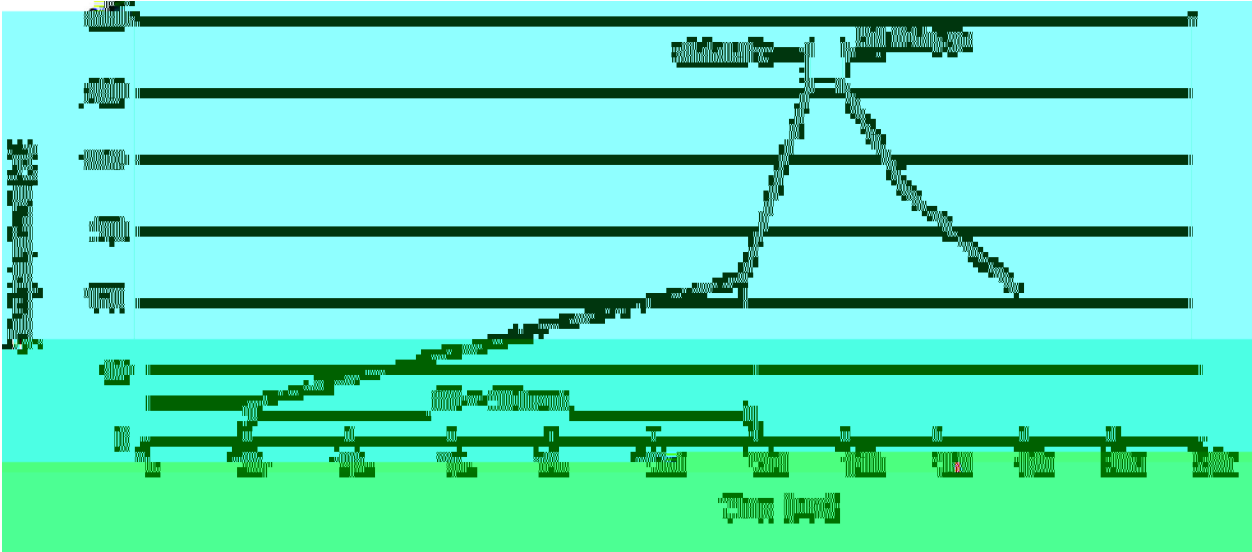
MUR3060PT

Product Type.

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Lot No. Code, code change with Lot No.

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



Note:			
1	25 150	60 90sec;	1.Preheating:25~150 , Time:60~90sec.
2	255±5	5±0.5sec;	2.Peak Temp.:255±5 , Duration:5±0.5sec.
3	2 10	/sec.	3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270±5	10±1 sec.	Temp.:270±5	Time:10±1 sec
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/ Packaging SPEC.

/ TUBE

Package Type	Units	Dimension	(unit mm)
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