

Rev.A Jun.-2023

N-Channel Enhancement Mode Field Effect Transistor in a SOP-8 Plastic Package.

$V_{DS}(V)=30V$ $I_D=6.9A$

$R_{DS(ON)} < 32m$ ($V_{GS}=10V$)

$R_{DS(ON)} < 36m$ ($V_{GS}=4.5V$)

$R_{DS(ON)} < 52m$ ($V_{GS}=2.5V$)

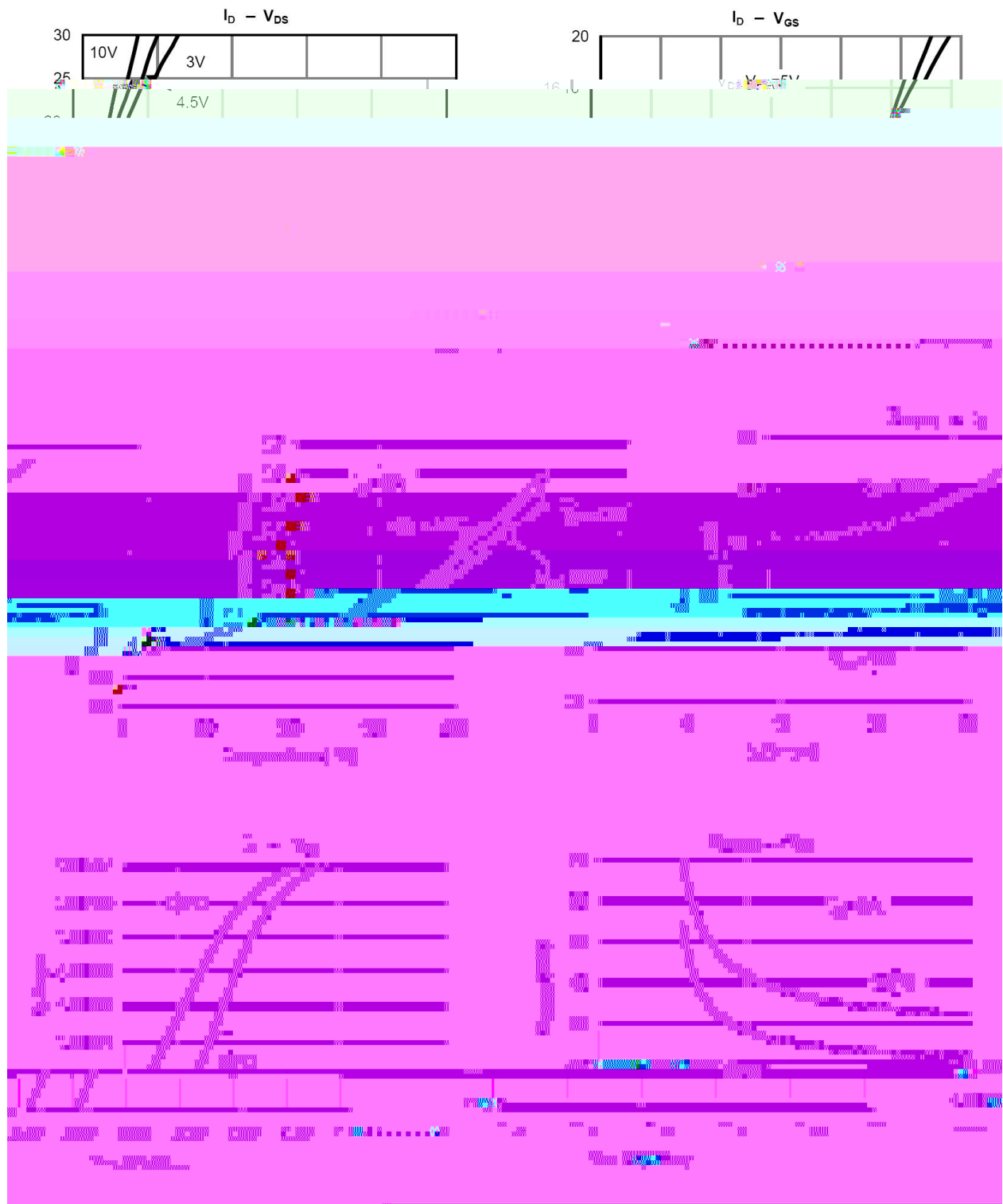
Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ^A	$I_D (T_a=25^{\circ}\text{C})$	6.9	A
	$I_D (T_a=70^{\circ}\text{C})$	5.8	A
Pulsed Drain Current ^B	I_{DM}	40	A
Power Dissipation for Single Operation ^A	$P_D (T_a=25^{\circ}\text{C})$	2.0	W
	$P_D (T_a=70^{\circ}\text{C})$	1.44	W
Junction and Storage Temperature Range	T_j, T_{stg}	-55 +150	$^{\circ}\text{C}$
Thermal Resistance-Junction to Ambient ^A	$R_{JA} \quad t \leq 10\text{s}$	62.5	$^{\circ}\text{C/W}$
	R_{JA}	110	$^{\circ}\text{C/W}$
Maximum Junction-to-Lead ^C	R_{JL}	40	$^{\circ}\text{C/W}$

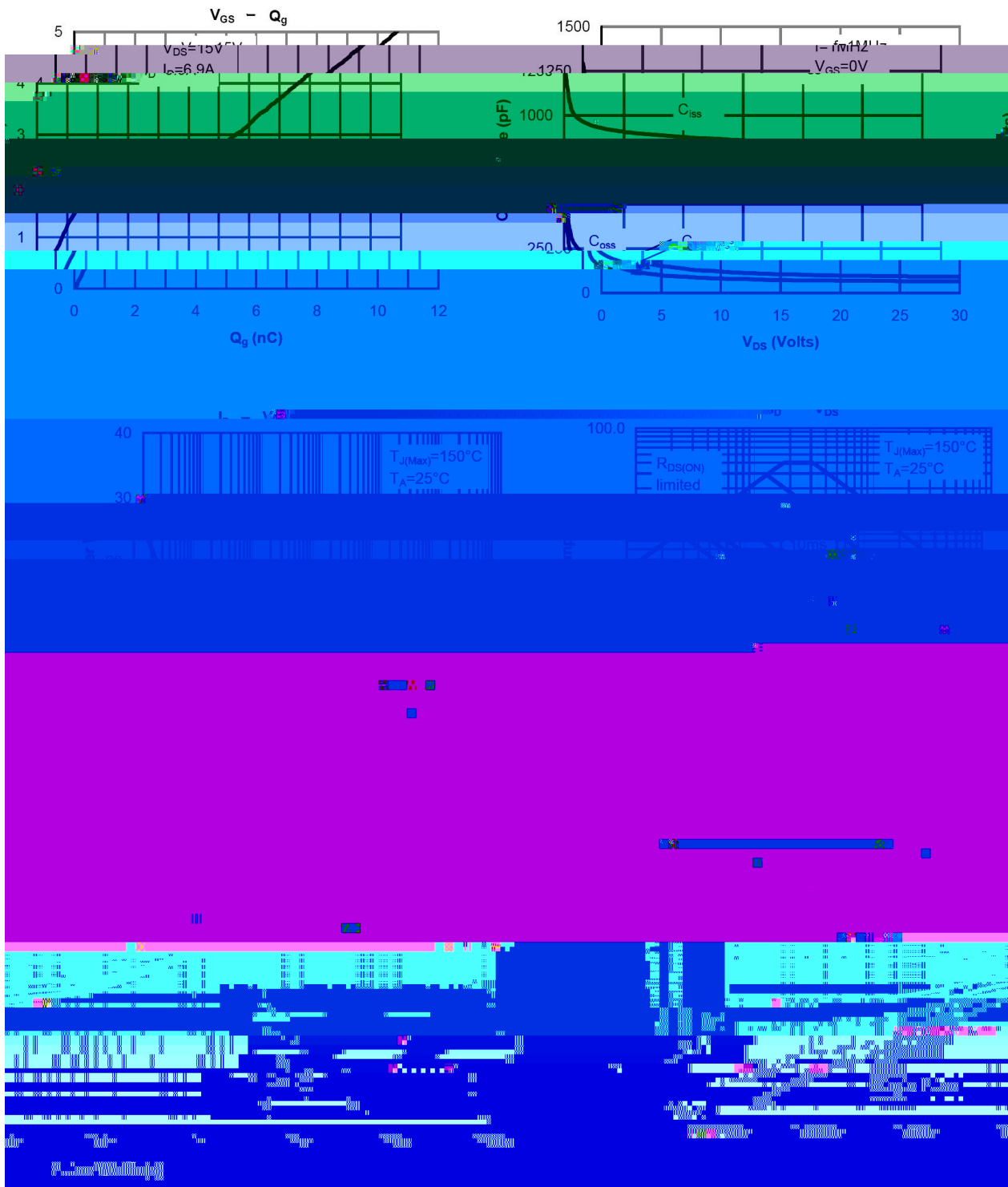
Note:

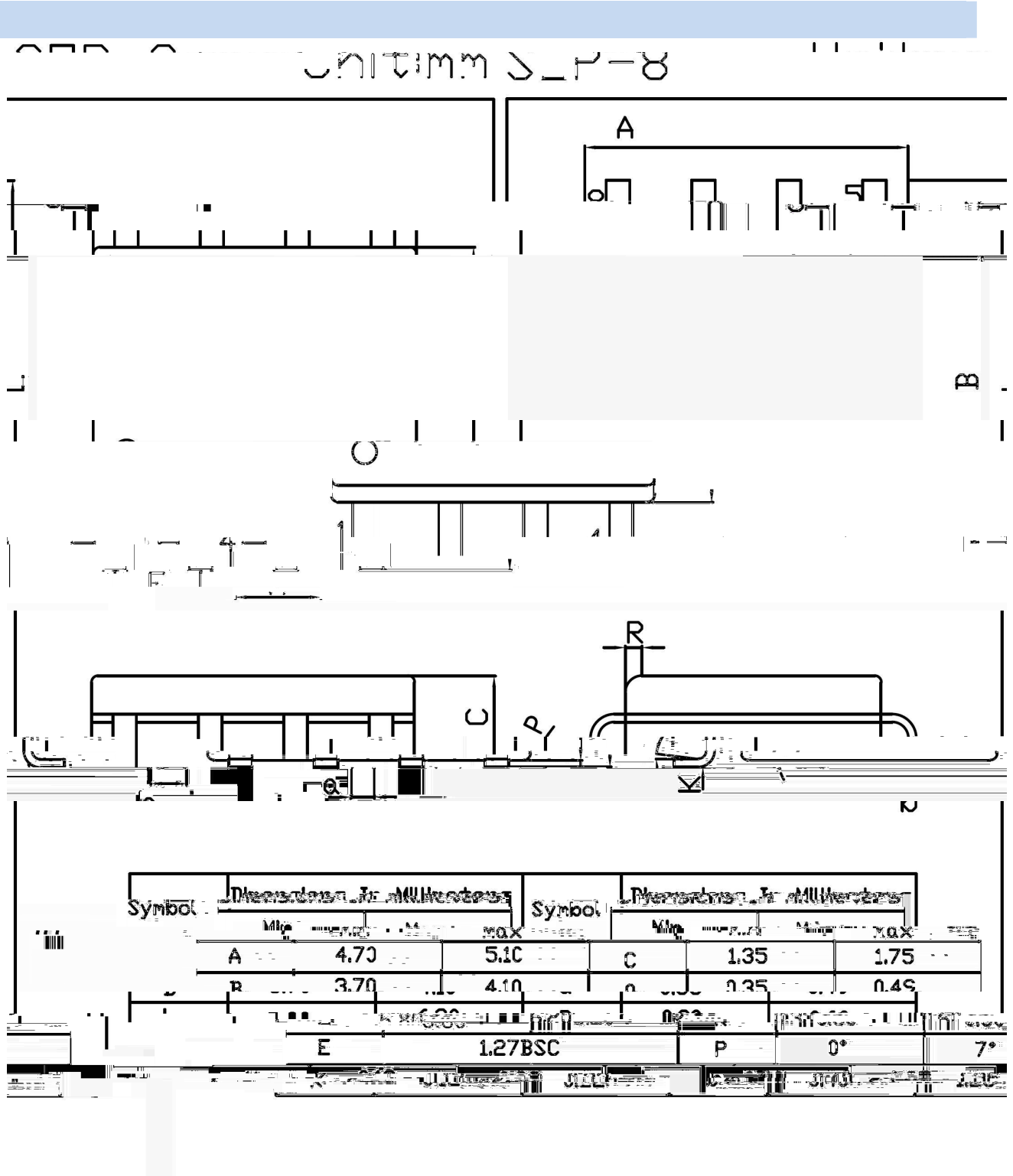
A: The value of R_{JA} is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_a=25^{\circ}\text{C}$. The value in any a given application depends on the user's specific board design. The current rating is based on the $t \leq 10\text{s}$ thermal resistance.

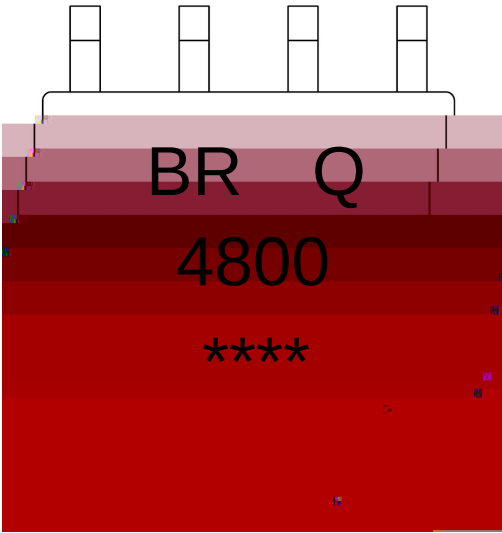
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\text{ A}$ $V_{GS}=0V$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24V$ $V_{GS}=0V$			1.0	A
		$V_{DS}=24V$ $V_{GS}=0V$ $T_J=55^\circ C$			5.0	
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V$ $V_{GS}=\pm 12V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	0.7	1.1	1.4	V
On state drain current	$I_{D(ON)}$	$V_{GS}=4.5V$ $V_{DS}=5.0V$	6.9			A
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V$ $I_D=6.9A$		24	32	m
		$V_{GS}=10V$ $I_D=6.9A$ $T_J=125^\circ C$		32.3	38	
		$V_{GS}=4.5V$ $I_D=6.0A$		27	36	
		$V_{GS}=2.5V$ $I_D=5.0A$		40	52	
Forward Transconductance	g_{FS}	$V_{DS}=5.0V$ $I_D=5.0A$	10	15		S
Diode Forward Voltage	V_{SD}	$I_S=1.0A$		0.77	1.0	V
Maximum Body-Diode Continuous	I_S				3.0	A
Gate Charge	Q_g	$V_{GS}=4.5V$ $V_{DS}=15V$ $I_D=6.9A$		9.6		nC
Gate-Source Charge	Q_{gs}			1.65		
Gate-Drain Charge	Q_{gd}			3.0		



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BR

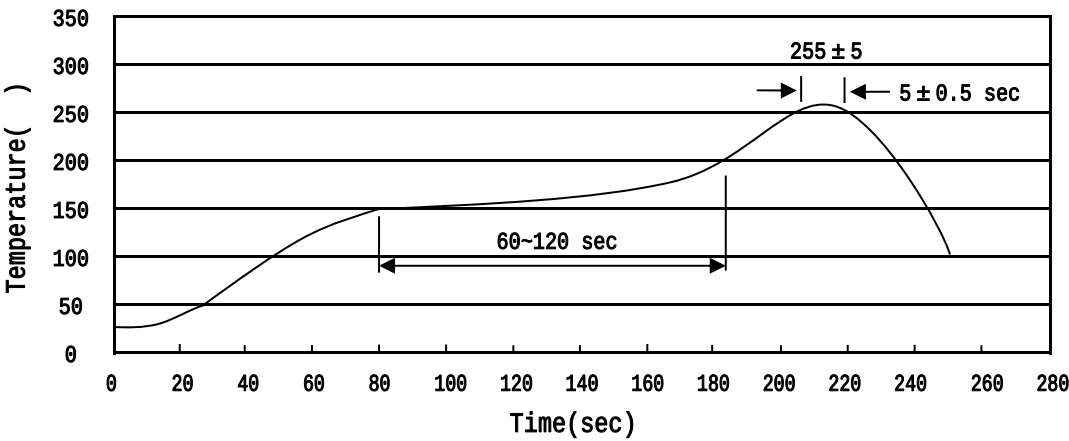
Q

4800

Note:

- BR: Company Code
- Q: Automobile halogen-free product Code
- 4800: Product Type
- ****: Lot No. Code, code change with Lot No

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 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.

260 5

10 1 sec.

Temp.:260±5

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366