

描述 / Descriptions

SOP-8 塑封封装 P 沟道场效应管。

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

特征 / Features

$V_{DS} (V) = -40V$

$I_D = -10 A (V_{GS} = \pm 20V)$

$R_{DS(ON)} < 15m\Omega (V_{GS} = -10V)$

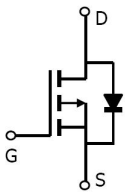
无卤产品。HF Product.

用途 / Applications

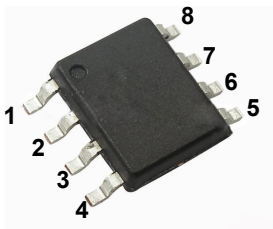
用于电源管理，便携式设备和电池供电系统。

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : S PIN 2 : S PIN 3 : S PIN 4 : G

PIN 5 : D PIN 6 : D PIN 7 : D PIN 8 : D

印章代码 / Marking

见印章说明 See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DSS}	-40	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	$I_D (T_a=25^\circ\text{C})$	-10	A
Continuous Drain Current	$I_D (T_a=70^\circ\text{C})$	-8	A
Power Dissipation for Single Operation	$P_D (T_a=25^\circ\text{C})$	1.7	W
Power Dissipation for Single Operation	$P_D (T_a=70^\circ\text{C})$	1.1	W
Maximum Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA} (t \leq 10\text{s})$	40	$^\circ\text{C}/\text{W}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	75	$^\circ\text{C}/\text{W}$
Maximum Junction-to-Lead	$R_{\theta JL}$	24	$^\circ\text{C}/\text{W}$

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =-250μA V _{GS} =0V	-40			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-40V V _{GS} =0V			-1.0	μA
		V _{DS} =-40V V _{GS} =0V T _J =55°C			-5.0	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250μA	-1.2	-1.6	-2.5	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-10V I _D =-10A		13.1	15	mΩ
		V _{GS} =-4.5V I _D =-7A		18	21	
Forward Transconductance	g _{FS}	V _{DS} =-5V I _D =-10A		9.5		S
Diode Forward Voltage	V _{SD}	I _S =-1A V _{GS} =0V		-0.8	-1.0	V
Total Gate Charge	Q _g (10V)	V _{GS} =-10V V _{DS} =-20V I _D =-10A		42	55	nC
Total Gate Charge	Q _g (4.5V)			18.6		
Gate-Source Charge	Q _{gs}			7		
Gate-Drain Charge	Q _{gd}			8.6		
Gate Resistance	R _g	V _{GS} =0V f=1MHz	V _{DS} =0V		8.5	Ω
Input Capacitance	C _{iss}	V _{GS} =0V f=1MHz	V _{DS} =-25V		3300	pF
Output Capacitance	C _{oss}				135	
Reverse Transfer Capacitance	C _{rss}				177	
Turn-on Delay Time	t _{d(ON)}	V _{GS} =-10V V _{DS} =-20V R _L =2Ω R _{GEN} =3Ω		9.4		ns
Turn-on Rise Time	t _r			20		
Turn-off Delay Time	t _{d(OFF)}			55		
Turn-off Fall Time	t _f			30		

电参数曲线图 / Electrical Characteristic Curve

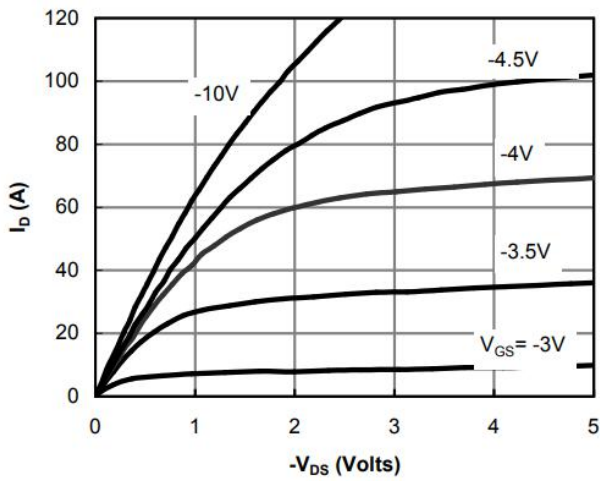


Figure 1: On-Region Characteristics

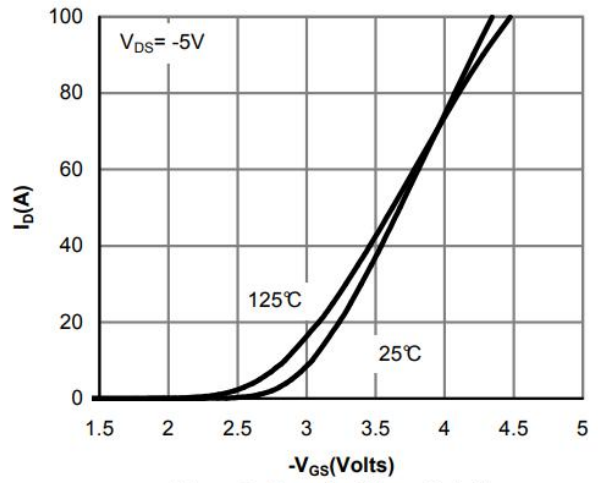


Figure 2: Transfer Characteristics

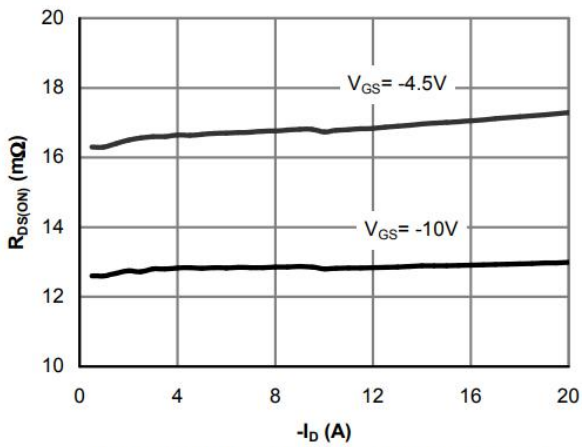


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

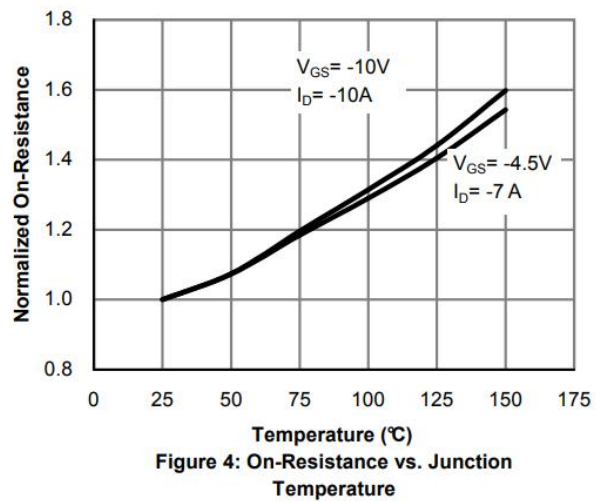


Figure 4: On-Resistance vs. Junction Temperature

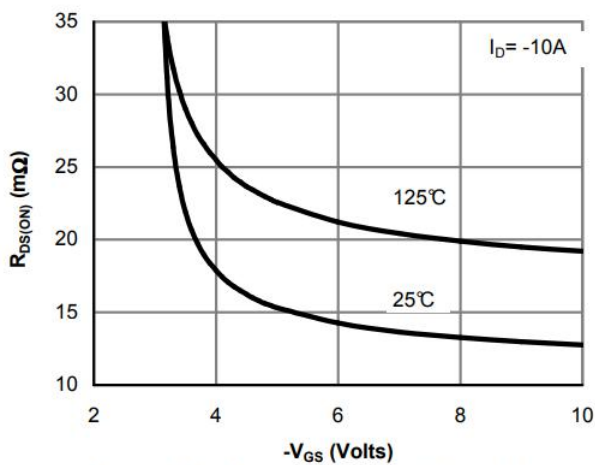


Figure 5: On-Resistance vs. Gate-Source Voltage

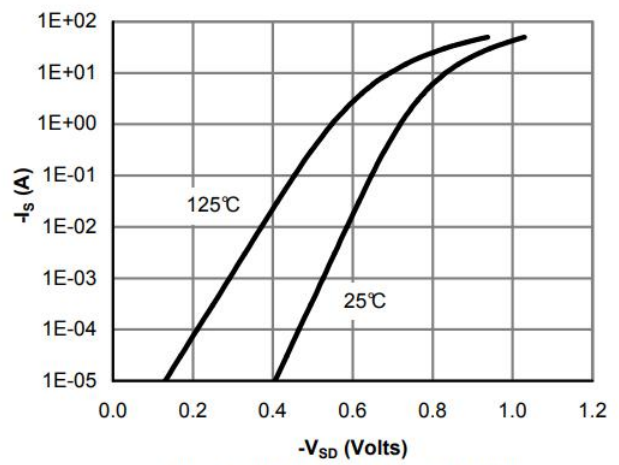


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

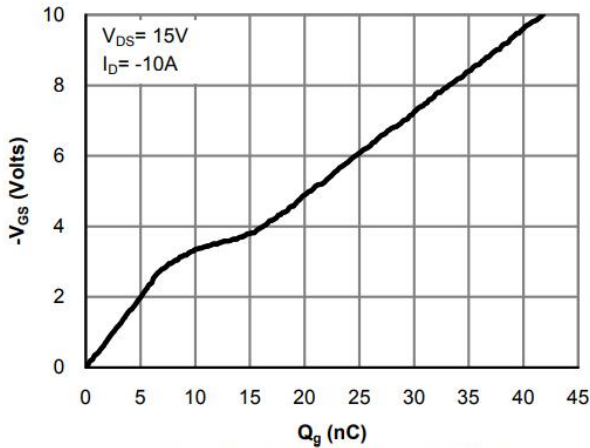


Figure 7: Gate-Charge Characteristics

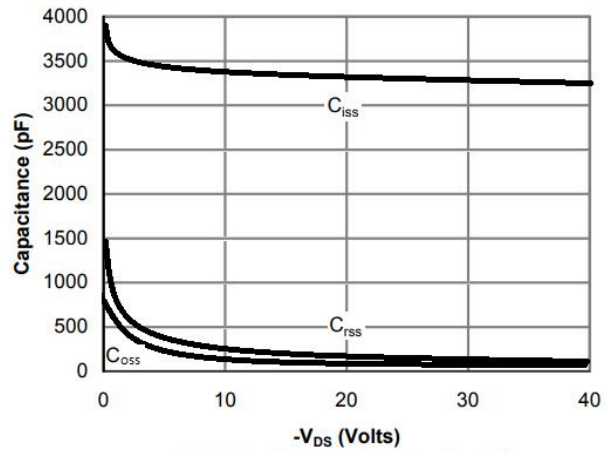


Figure 8: Capacitance Characteristics

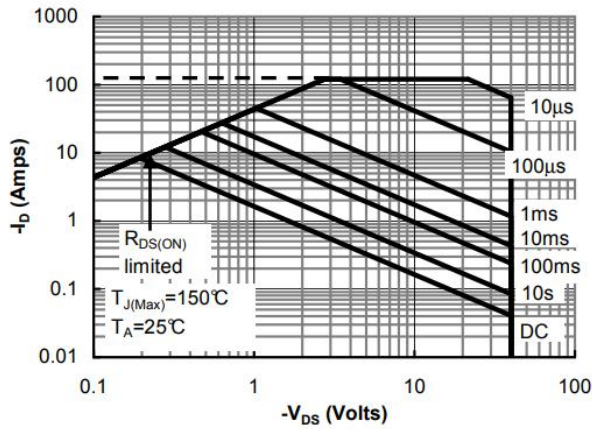


Figure 9: Maximum Forward Biased Safe Operating Area

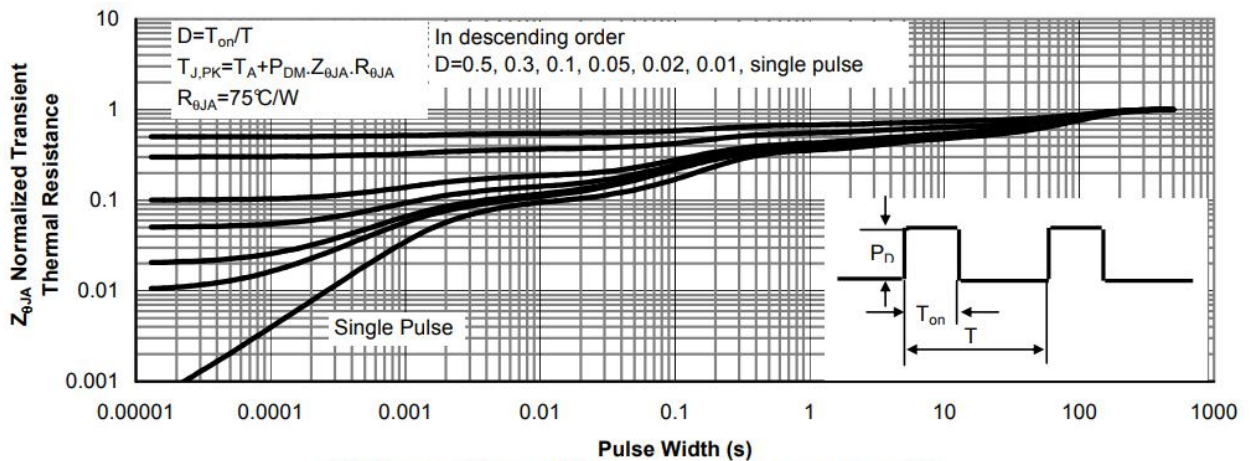
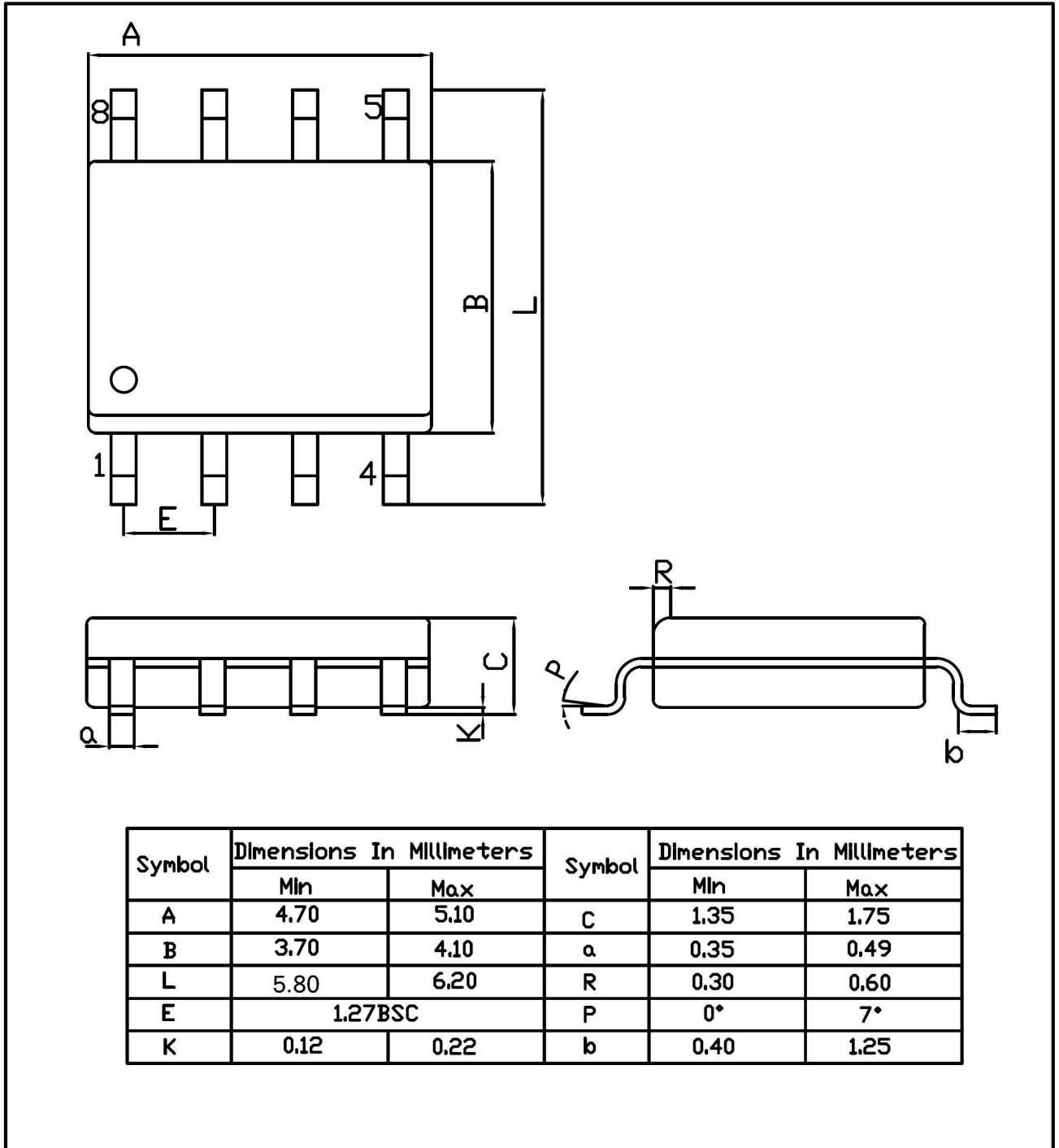


Figure 10: Normalized Maximum Transient Thermal Impedance

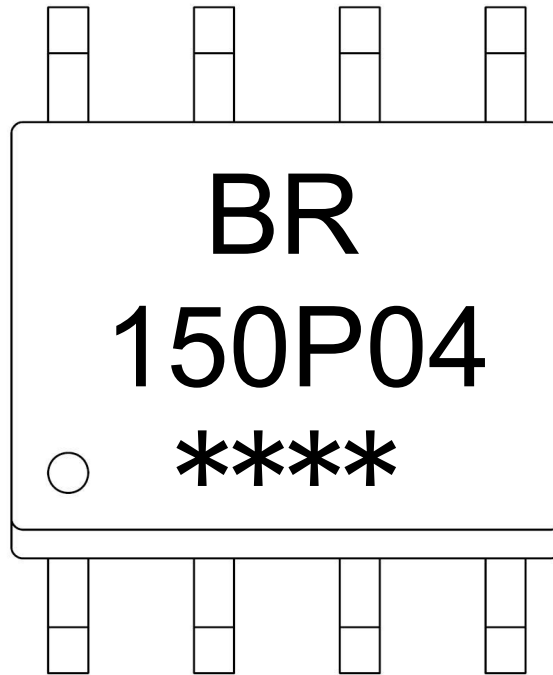
外形尺寸图 / Package Dimensions

SOP-8

Unit:mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

150P04： 为型号代码

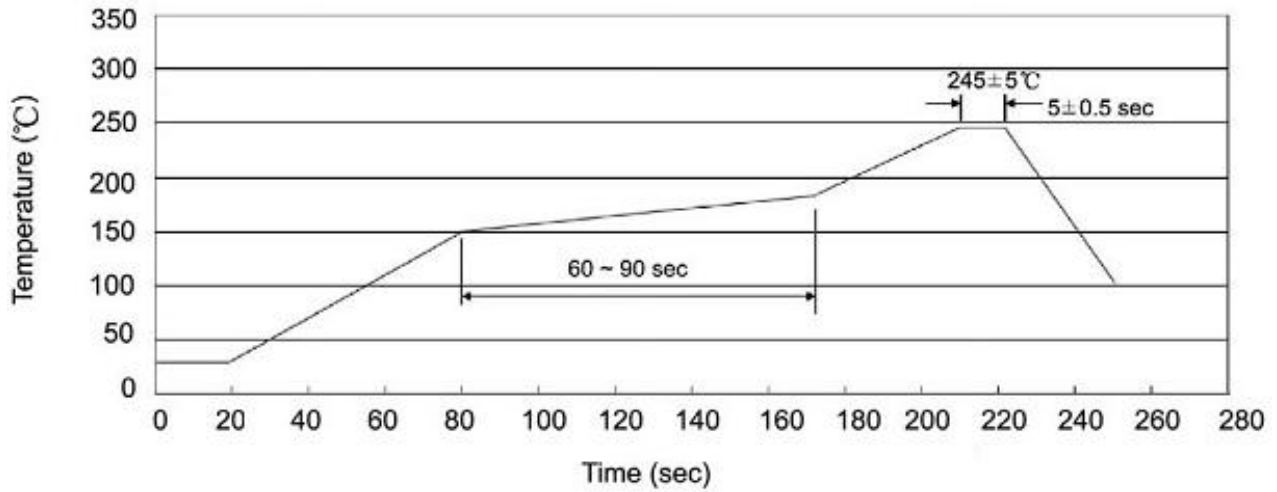
****： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

150P04: Product Type

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

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)


说明：

- 1、预热温度 150 ~ 180°C，时间 60 ~ 90sec；
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec；
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

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

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOP/ESOP-8	4,000	2	8,000	6	48,000	13" × 12	360×360×50	380×335×366

使用说明 / Notices

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