

描述 / Descriptions

SOP-8 塑封封装互补增强模式 MOS 场效应管。

P Complementary Enhancement MOSFET in a SOT-23 Plastic Package.

特征 / Features

超高密度设计，导通电阻小，可靠性好。

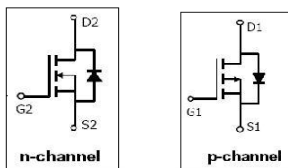
Super high dense cell design for low $R_{DS(ON)}$, Rugged and reliable.

用途 / Applications

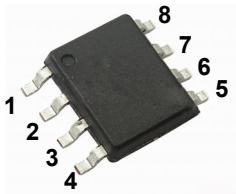
用于高功率 DC/DC 转换和功率开关。

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : S1 PIN 2 : G1 PIN 3 : S2 PIN 4 : G2

PIN 5 : D1 PIN 6 : D1 PIN 7 : D2 PIN 8 : D2

放大及印章代码 / h_{FE} Classifications & Marking

见印章说明。See Marking Instructions.

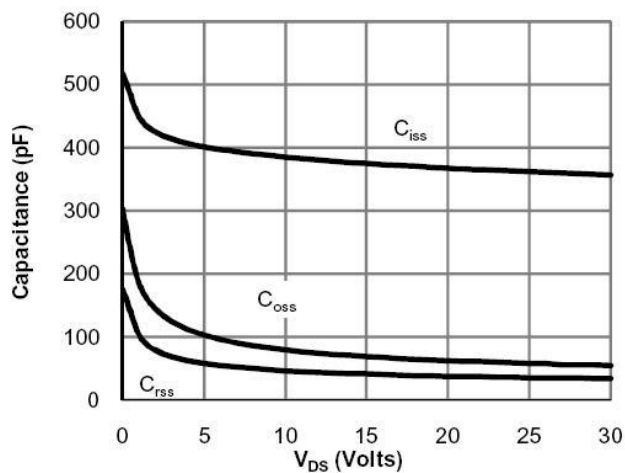
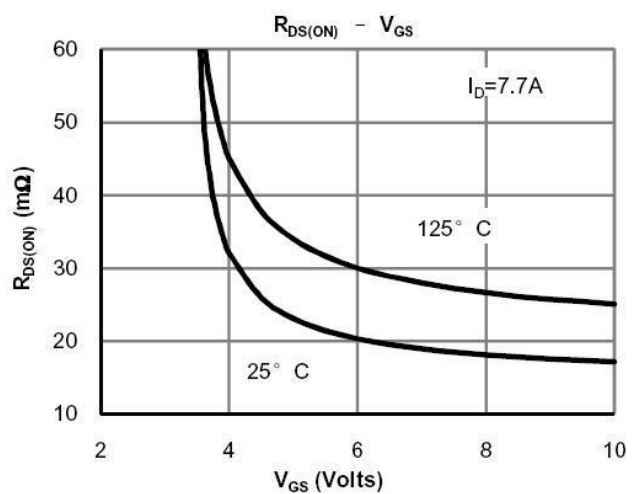
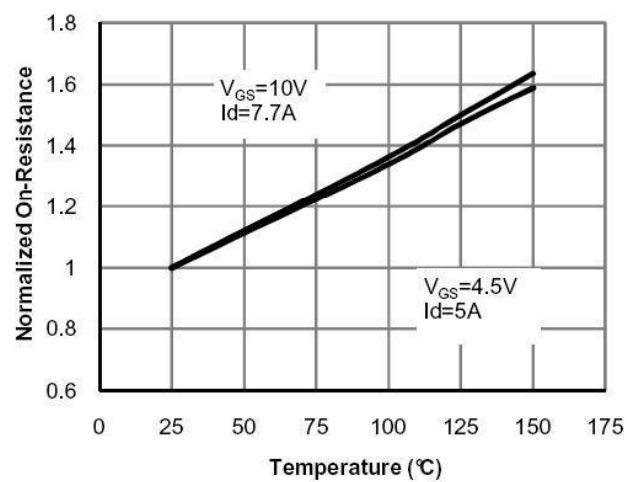
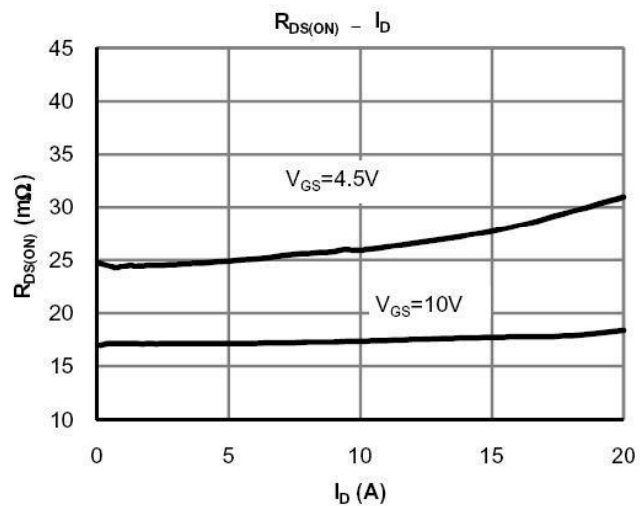
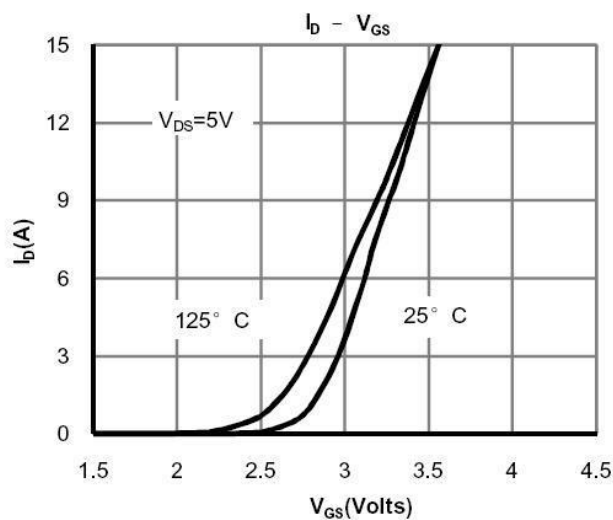
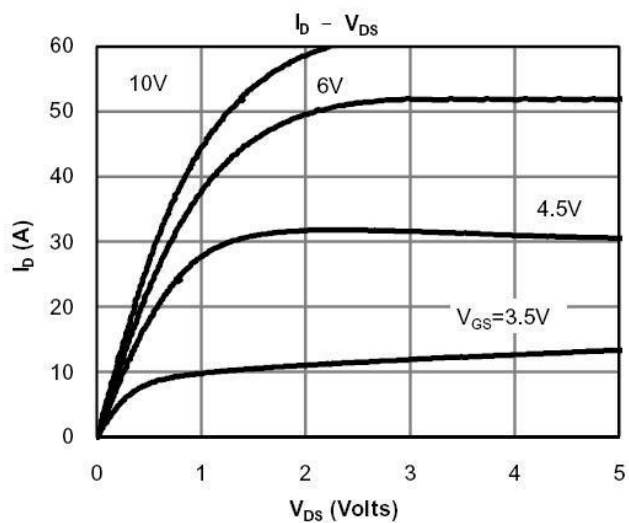
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating		单位 Unit
		N-channel	P-channel	
CDrain-Source Voltage	V_{DSS}	± 30		V
Gate-Source Voltage	V_{GSS}	± 20		V
Continuous Drain Current	I_D	7.2	-5.3	A
		6.2	-4.5	A
Pulsed Drain Current	I_{DM}	64	-40	A
Power Dissipation	$P_D (T_A=25^\circ\text{C})$	2.0		W
Power Dissipation	$P_D (T_A=70^\circ\text{C})$	1.44		W
Avalanche Current	I_{AR}	9	17	A
Repetitive avalanche energy	E_{AR}	12	43	mJ
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150		$^\circ\text{C}$

N-沟道电性能参数/N-CHANNEL 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}	$V_{GS}=0V$ $I_D=250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1	μA
Gate-Body leakage current	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.5	2.1	2.6	V
Static Drain-Source On-Resistance	$*R_{DS(on)}$	$V_{GS}=10V$ $I_D=7.2A$		17.7	24	m Ω
		$V_{GS}=4.5V$ $I_D=5.0A$		24.8	36	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5.0V$ $I_D=7.2A$		20		S
On state drain current	$I_{D(on)}$	$V_{DS}=5.0V$ $V_{GS}=10V$	64			A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1.0A$		0.74	1.0	V
Input Capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1.0MHz$		373	448	pF
Output Capacitance	C_{oss}			67		pF
Reverse Transfer Capacitance	C_{rss}			41		pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=15V$ $V_{GS}=10V$ $R_L=2.1\Omega$ $R_{GEN}=3\Omega$		4.5		ns
Turn-On Rise Time	t_r			2.7		ns
Turn-Off Delay Time	$t_{d(off)}$			14.9		ns
Turn-Off Fall Time	t_f			2.9		ns

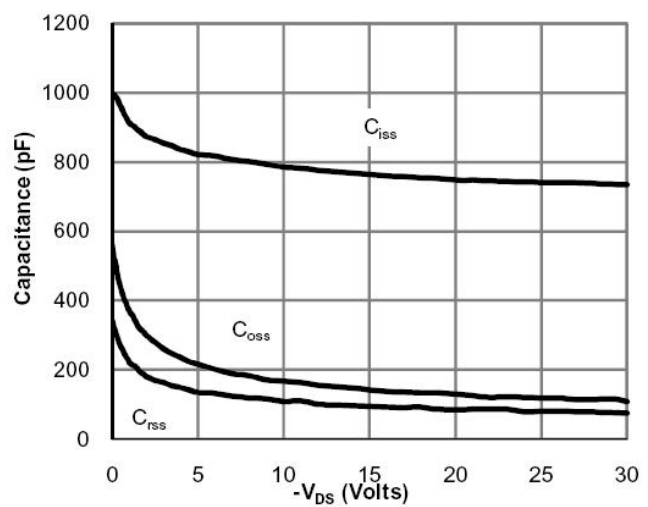
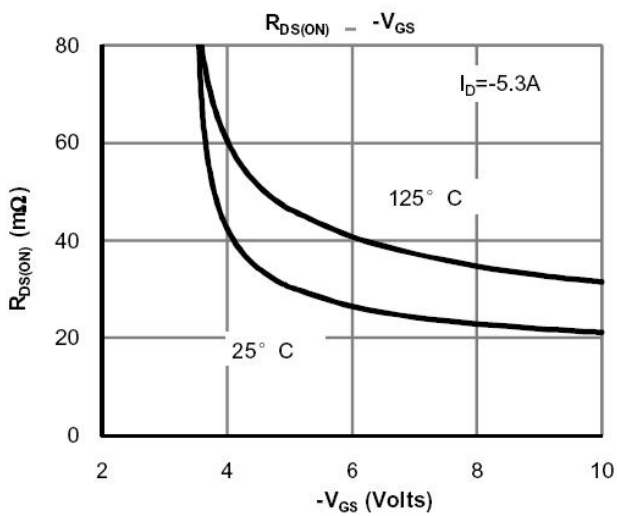
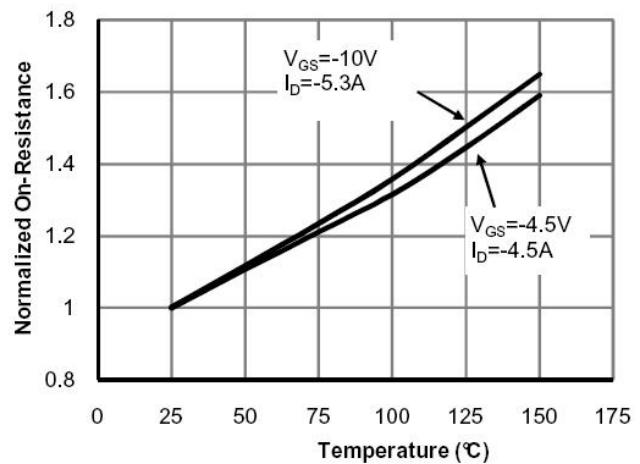
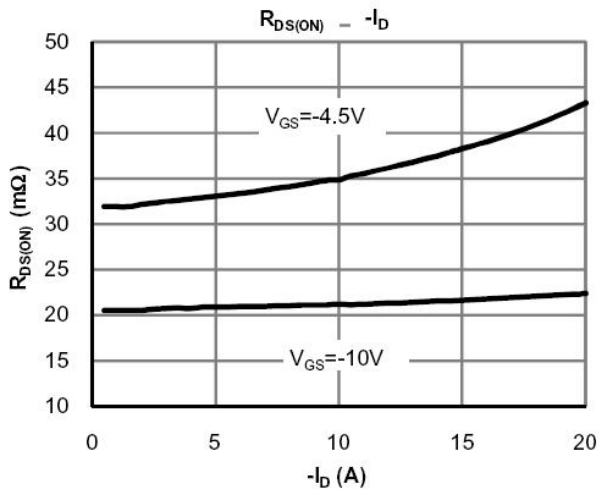
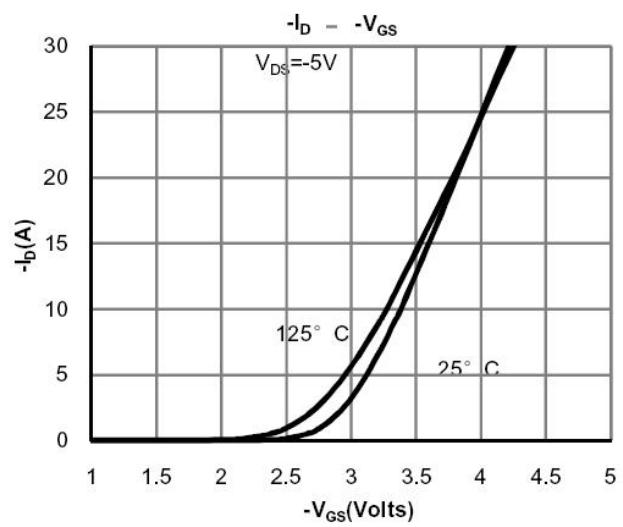
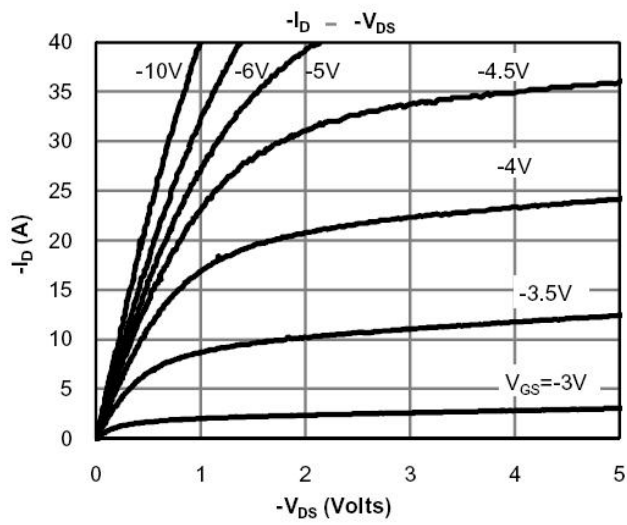
电参数曲线图 / Electrical Characteristic Curve



P-沟道电性能参数/P-CHANNEL Electrical Characteristics(Ta=25℃)

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}	$V_{GS}=$ $I_D=-250\mu A$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V$ $V_{GS}=0V$			-1	μA
Gate-Body leakage current	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1.3	-1.85	-2.4	V
Static Drain-Source On-Resistance	$*R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-5.3A$		23	32	m Ω
		$V_{GS}=-4.5V$ $I_D=-4.5A$		33	55	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=-5.0V$ $I_D=-5.3A$		19		S
On state drain current	$I_{D(on)}$	$V_{DS}=-5.0V$ $V_{GS}=-10V$	-40			A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=-1.0A$		-0.8	-1.0	V
Input Capacitance	C_{iss}	$V_{DS}=-15V$ $V_{GS}=0V$ $f=1.0MHz$		760		pF
Output Capacitance	C_{oss}			140		pF
Reverse Transfer Capacitance	C_{rss}			95		pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-15V$ $V_{GS}=-10V$ $R_L=2.8\Omega$ $R_{GEN}=3\Omega$		8		ns
Turn-On Rise Time	t_r			6		ns
Turn-Off Delay Time	$t_{d(off)}$			17		ns
Turn-Off Fall Time	t_f			5		ns

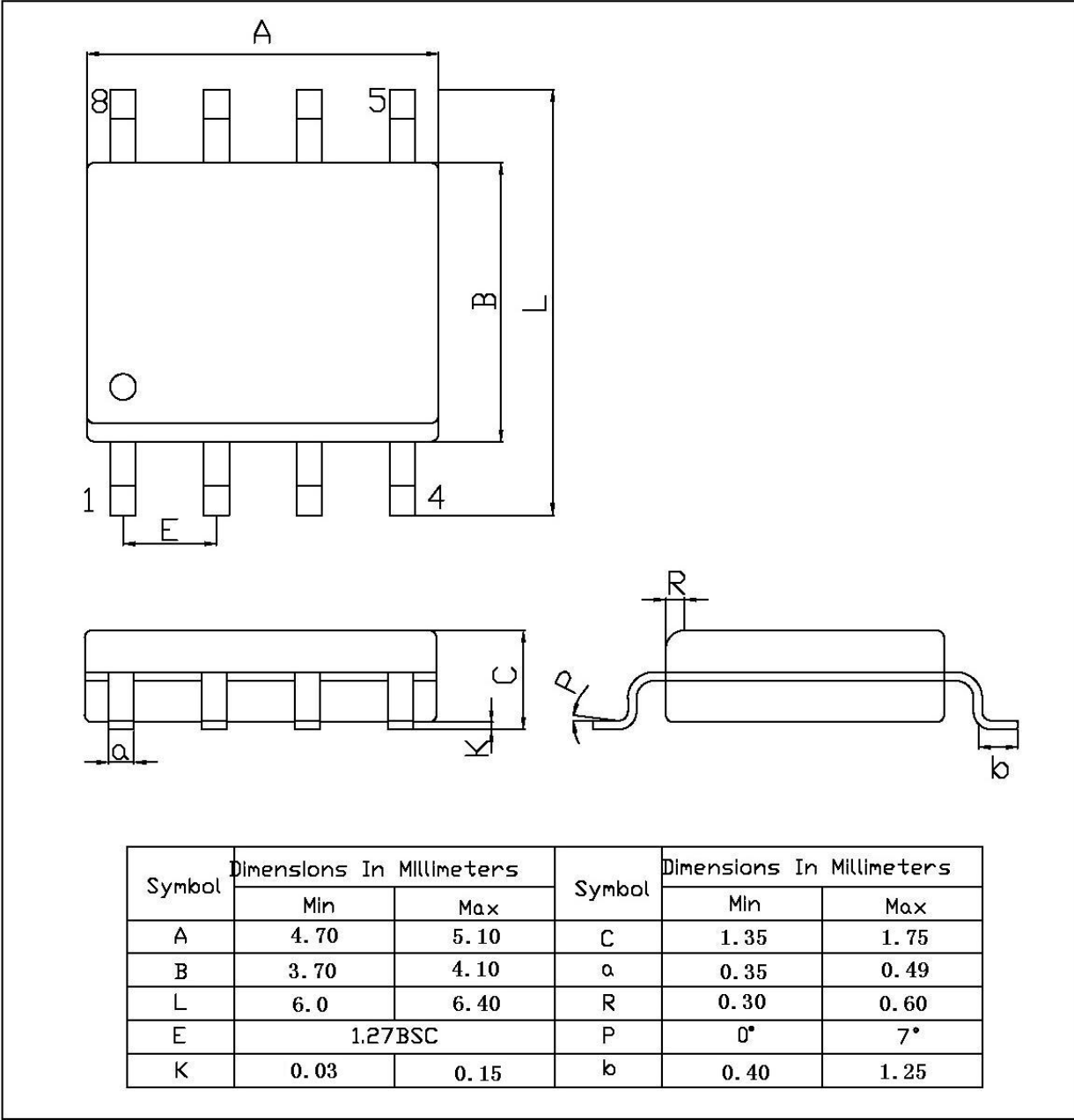
电参数曲线图 / Electrical Characteristic Curve



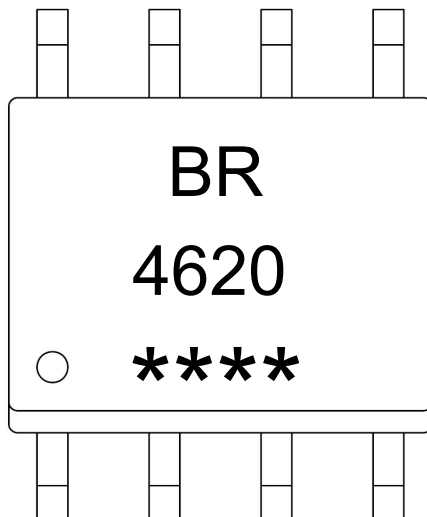
外形尺寸图 / Package Dimensions

SOP-8

单位: mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

4620： 为型号代码

****： 为生产批号代码，随生产批号变化。

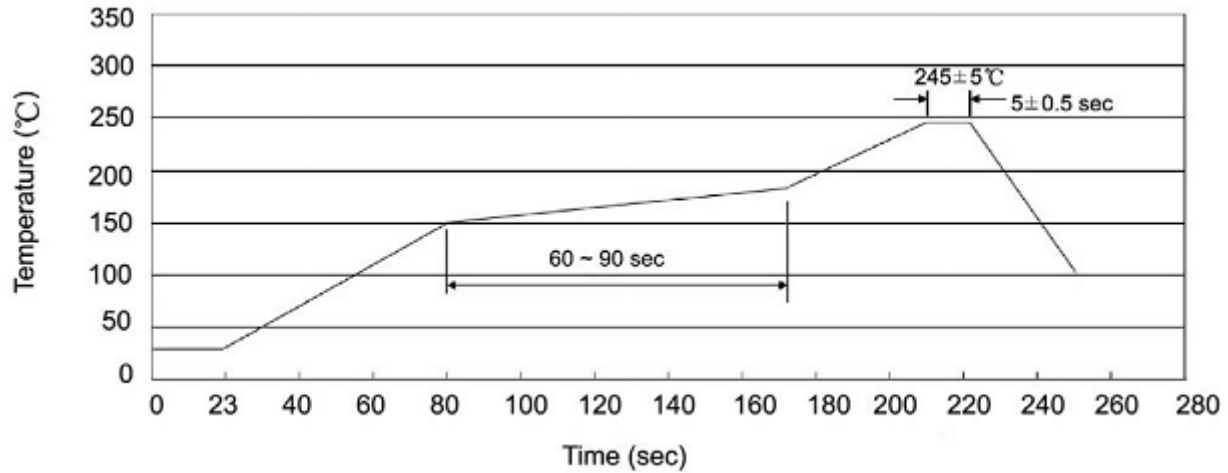
Note:

BR: Company Code.

4620: 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 25 ~ 150°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:25~150°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	3,000	2	6,000	6	36,000	13" ×16	360×360×50	380×335×366

使用说明 / Notices