

■ 描述 DESCRIPTIONS

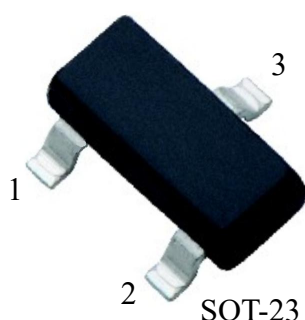
SOT-23 塑封封装 NPN 三极管。NPN transistor in SOT-23 Plastic Package.

与 FHS3906 互补。Complementary to FHS3906

■ 应用 APPLICATIONS

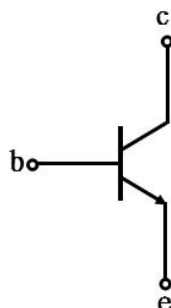
常规应用、开关电路。General purpose application,switching.

■ 引脚说明 PIN ASSIGNMENT



- 1 BASE
- 2 EMITTER
- 3 COLLECTOR

■ 内部等效电路 Equivalent Circuit



■ 型号构成 Name rule

基本名称 Name			辅助识别代码 Additional code			
第一部分 Part 1	第二部分 Part 2	第三部分 Part 3	第四部分 Part 4	第五部分 Part 5	第六部分 Part 6	第七部分 Part 7
品牌 Brand	产品类别 Type	产品型号 Model	分档 Value	分隔号 Separatrix	封装代码 Package	附加码 (备用) Extra-code
FH	S: 开关三极管	3904		"—"	M: SOT-23	E: ROHS

■ **额定值 ABSOLUTE MAXIMUM RATINGS** (TC=25°C unless otherwise noted)

特性参数 CHARACTERISTIC	符号 SYMBOL	额定值 RATING	单位 UNIT
集电极-基极电压 Collector-Base Voltage	V_{CBO}	60	V
集电极-发射极电压 Collector-Emitter Voltage	V_{CEO}	40	V
发射极-基极电压 Emitter-Base Voltage	V_{EBO}	6	V
集电极电流 Collector Current	I_C	200	mA
集电极电流-峰值 Collector Current - Peak	I_{CM}	800	mA
集电极耗散功率 Collector Power Dissipation	P_C	225	mW
结温 Junction Temperature	T_j	150	°C
储存温度 Storage Temperature	T_{stg}	- 55~150	°C

■ 电特性 ELECTRICAL CHARACTERISTICS

(TA=25°C unless otherwise noted 如无特殊说明, 温度为 25°C)

特性参数 CHARACTERISTIC	符号 SYMBOL	测试条件 TEST CONDITIONS	最小值 MIN.	典型值 TYP.	最大值 MAX.	单位 UNIT
集电极-基极反向击穿电压 Collector-Base Voltage	$V_{(BR)CBO}$	$I_C = 0.01mA, I_E = 0$	60			V
集电极-发射极反向击穿电压 Collector-Emitter Voltage	$V_{(BR)CEO}$	$I_C = 1mA, I_B = 0$	40			V
发射极-基极反向击穿电压 Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 0.01mA, I_C = 0$	6			V
集电极截止电流 Collector Cut-off Current	I_{CBO}	$V_{CB} = 60V, I_E = 0$			0.1	μA
集电极截止电流 Collector Cut-off Current	I_{CEX}	$V_{CE} = 30V, V_{EB} = 3V$			0.05	μA
基极截止电流 Base Cut-off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			0.1	μA
直流电流增益 DC Current Gain (Note *)	h_{FE}	$I_C = 0.1mA, V_{CE} = 1.0V$	40			
		$I_C = 1.0mA, V_{CE} = 1.0V$	70			
		$I_C = 10mA, V_{CE} = 1.0V$	100		300	
		$I_C = 50mA, V_{CE} = 1.0V$	60			
		$I_C = 100mA, V_{CE} = 1.0V$	30			
集电极-发射极饱和压降 Collector-Emitter Saturation Voltage (Note *)	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$			0.2	V
		$I_C = 50mA, I_B = 5mA$			0.3	
基极-发射极饱和压降 Base-Emitter Saturation Voltage (Note *)	$V_{BE(sat)}$	$I_C = 10mA, I_B = 1mA$			0.85	V
		$I_C = 50mA, I_B = 5mA$			0.95	
电流增益-带宽乘积 Gain Bandwidth Product	f_T	$I_C = 10mA, V_{CE} = 20V$	300			MHz
共基极输出电容 Collector Output Capacitance	C_{ob}	$V_{CB} = 5V, I_E = 0, f = 1MHz$			4	PF
噪声系数 Noise factor	NF	$V_{CE} = 5V, I_C = 0.1mA, f = 15.7KHz, R_g = 1K\Omega$			5	dB
延迟时间 Delay Time	t_d	$V_{CC} = 3.0V, V_{BE} = -0.5V, I_C = 10mA, I_{B1} = 1.0mA$			35	ns
上升时间 Rise Time	t_r				35	
存储时间 Storage Time	t_s	$V_{CC} = 3.0V, I_C = 10mA, I_{B1} = I_{B2} = 1.0mA$			200	
下降时间 Fall Time	t_f				50	

Note *: Pulse Test: Pulse Width < 300 us, Duty Cycle < 2.0%.

■ 典型特性 TYPICAL CHARACTERISTICS

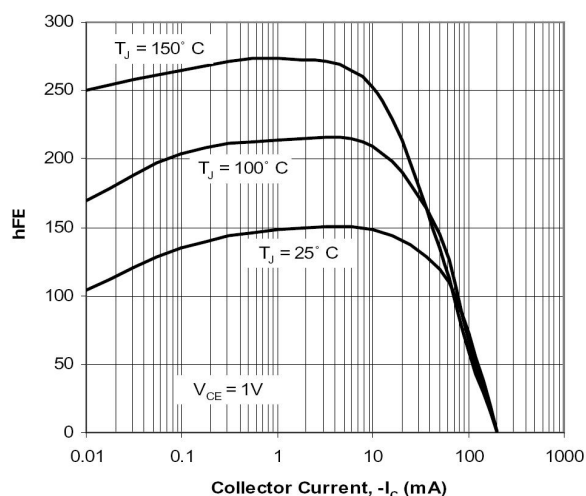


Fig. 1. Typical h_{FE} vs. Collector Current

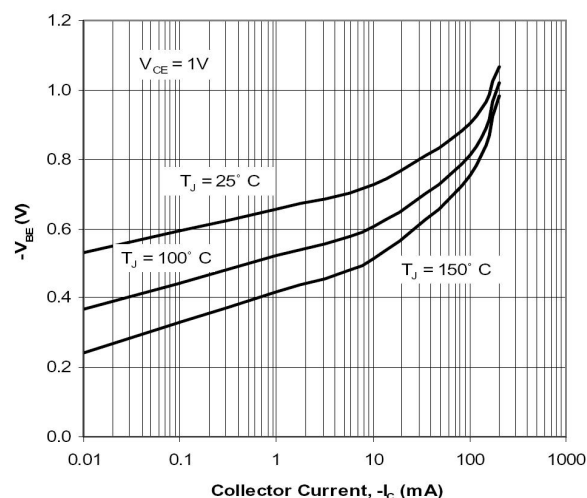


Fig. 2. Typical V_{BE} vs. Collector Current

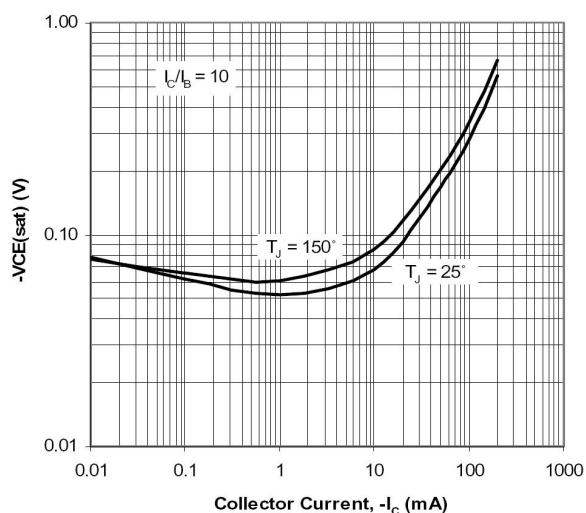


Fig. 3. Typical $V_{CE(sat)}$ vs. Collector Current

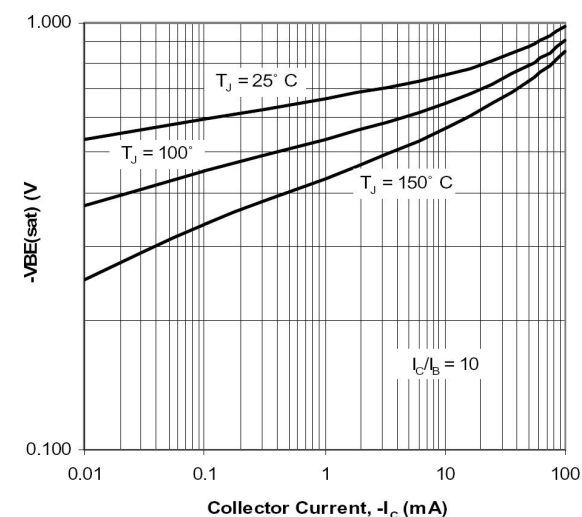


Fig. 4. Typical $V_{BE(sat)}$ vs. Collector Current

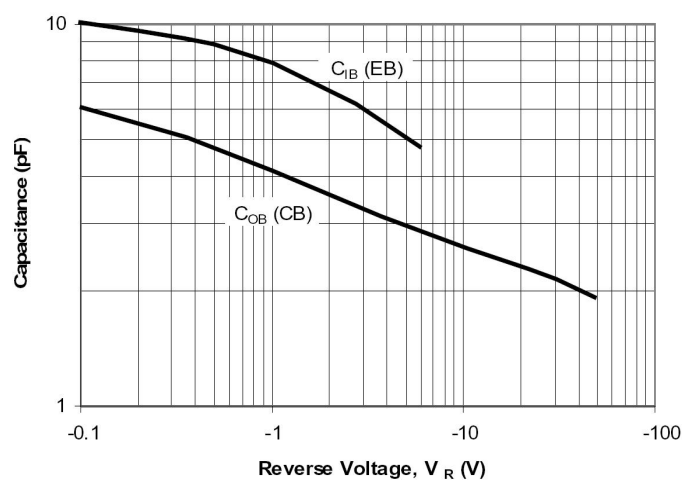
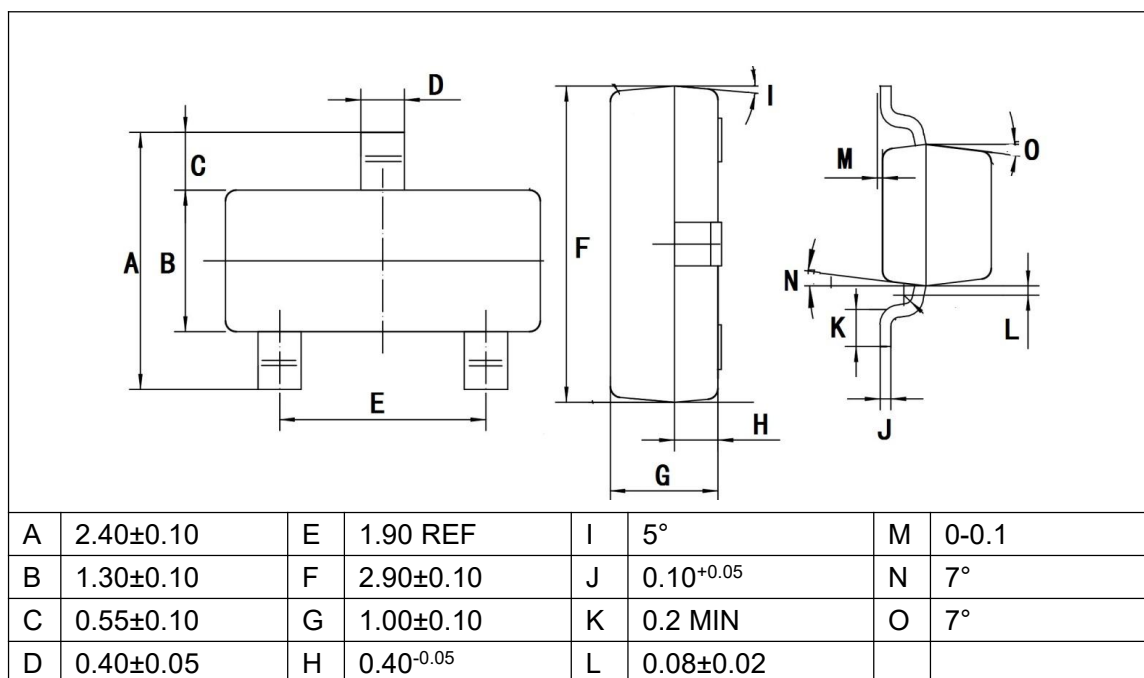
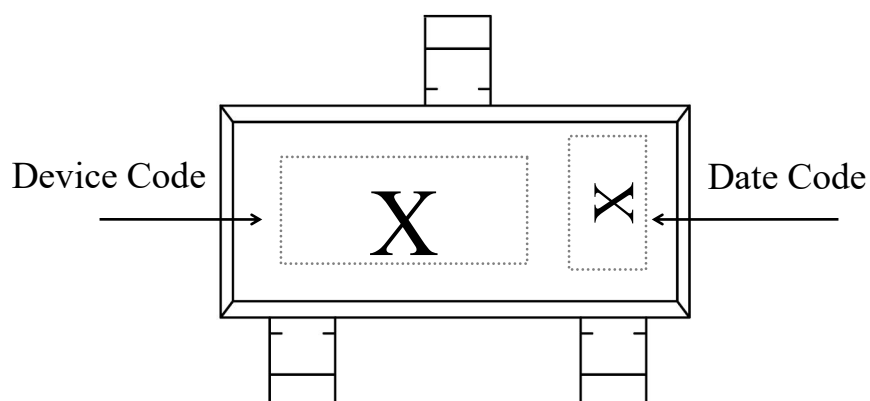


Fig. 5. Typical Capacitances vs. Reverse Voltage

■ 外形尺寸 DIMENSION



■ 打标 DEVICE MARKING



Device	FHS3904-ME
h_{FE} Range	100~300
Code	1AM

■ 包装信息 PACKAGE INFORMATION

材料名称 Material Name	颜色 Color	尺寸 Size	数量 Quantity	备注 Note
卷盘 Reel	蓝色 Blue	7 " *8mm	3K/Reel	
内盒 Inner Case	黄色 Yellow	185*185*140mm	30K/盒 (10 盘/盒) 30K/Case (10 Reel/ Case)	OHO2
外箱 Outer Box	黄色 Yellow	460*400*210mm	180K/箱 (6 盒/箱) 180K/Box (6 Case/Box)	OXO2
标签 Label	白色 White	68*40mm	——	贴卷盘、内盒、外箱 Label on reel、inner case、 outer box