

/ Descriptions

TO-252 NPN Silicon NPN transistor in a TO-252 Plastic Package.

/ Features

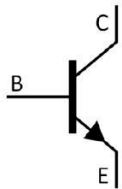
MBIT

High breakdown voltage, adoption of MBIT process excellent h_{FE} linearity.

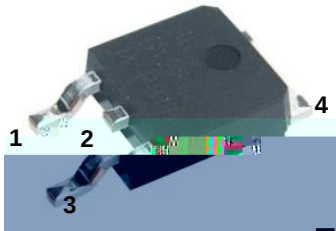
/ Applications

High voltage driver applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2,4 Collector PIN 3 Emitter

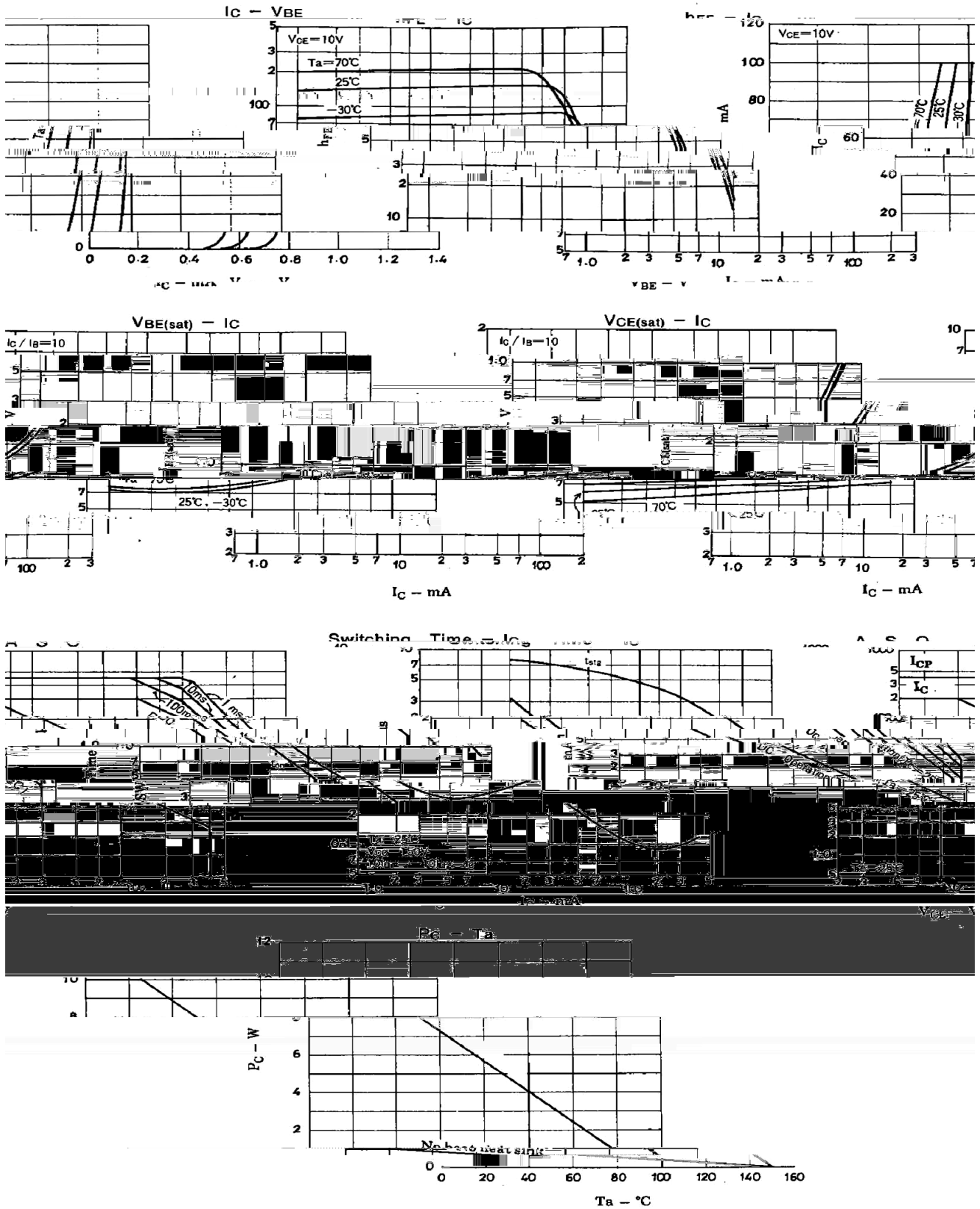
/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	D	E
h_{FE} Range	60~120	100~200

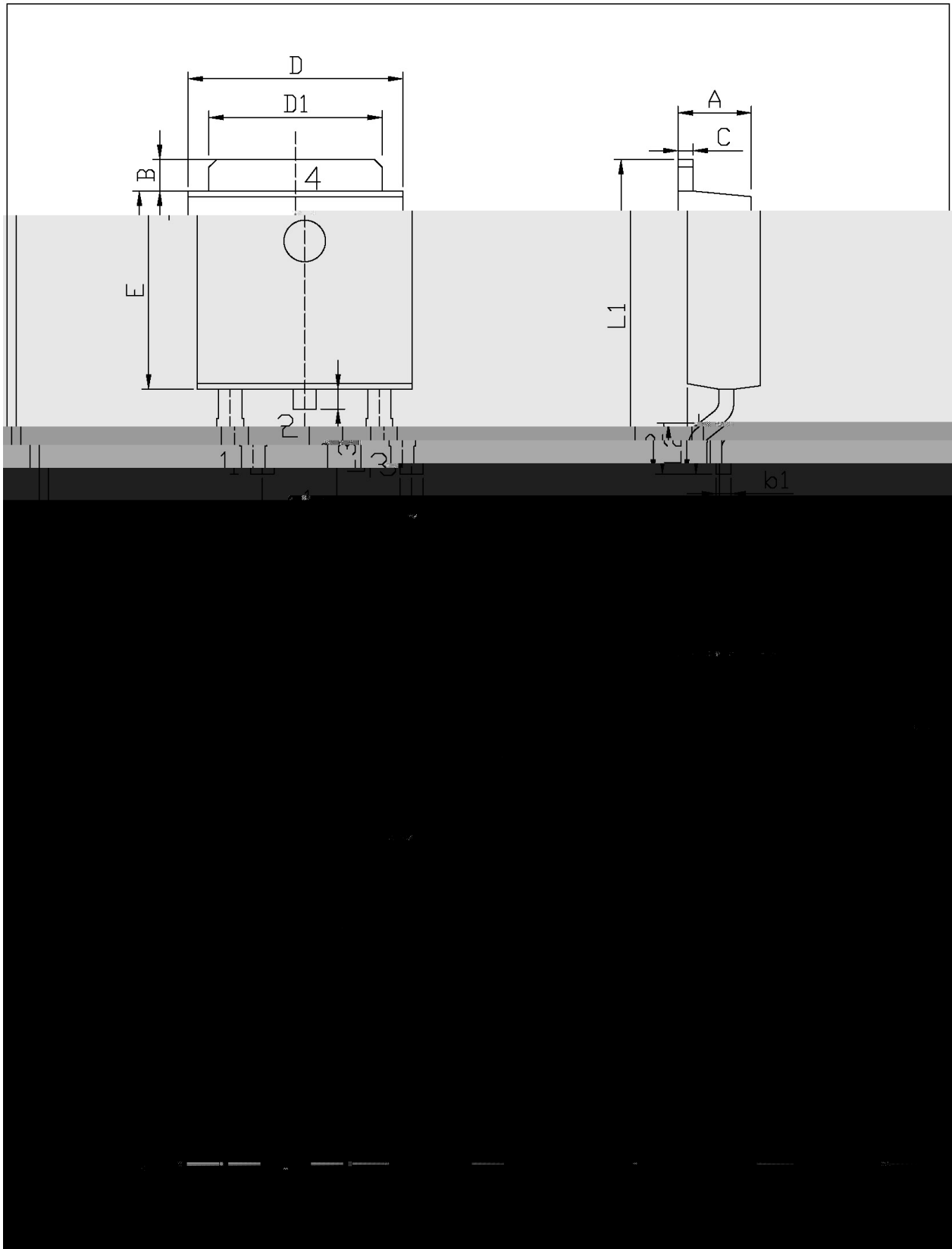
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	400	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	200	mA
Collector Current – Continuous(Pulse)	I_{CP}	400	mA
Collector Power Dissipation	P_C	1.0	W
Collector Power Dissipation	$P_C(T_c=25^{\circ}C)$	10	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\mu A$ $I_E=0$	400			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $R_{BE}=\infty$	400			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=300V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=50mA$	60		200	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50mA$ $I_B=5.0mA$			0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=50mA$ $I_B=5.0mA$			1.0	V
Transition Frequency	f_T	$V_{CE}=30V$ $I_C=10mA$		70		MHz
Collector output capacitance	C_{ob}	$V_{CB}=30V$ $f=1.0MHz$		4.0		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=30V$ $f=1.0MHz$		3.0		pF
Turn-On Time	t_{on}	$10I_{B1}=-10I_{B2}=I_C=50mA$		0.25		μs
Turn-Off Time	T_{off}	$R_L=3K\Omega$ $R_B=200\Omega$		5.0		μs

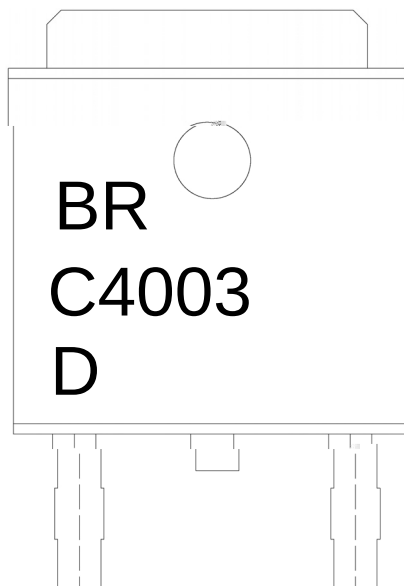
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

C4003

D: h_{FE}

Note:

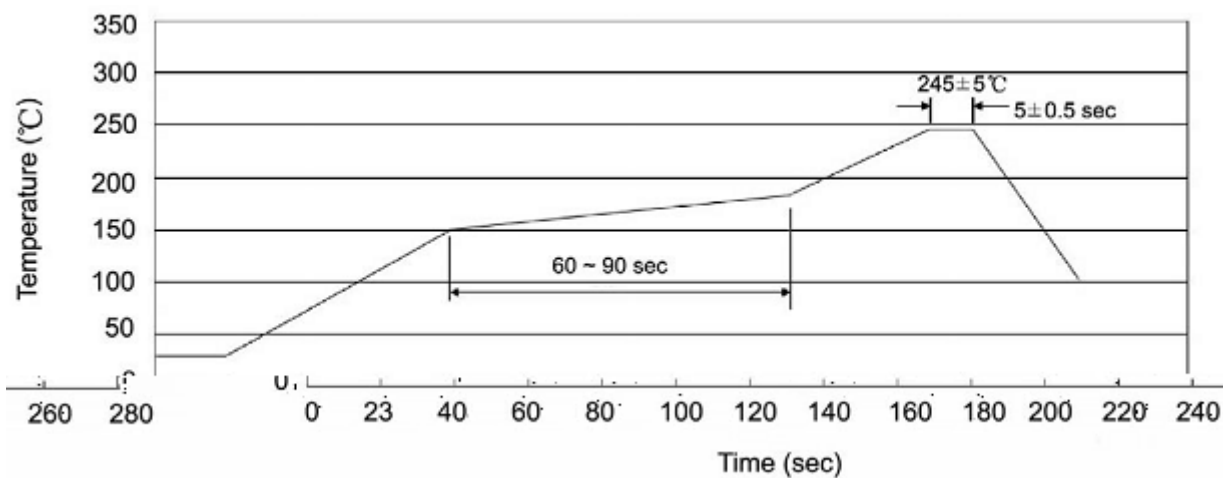
BR: Company Code

C4003: Product Type.

D: h_{FE} Classifications Symbol

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

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Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 245±5 | | 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. | |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱
						"		

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 套管	套管 盒	只 盒	盒 箱	只 箱	套管	盒	箱

/ Notices