2SC4003

Rev.E May.-2016

DATA SHEET

/ Descriptions

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

/ Features

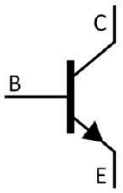
MBIT

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

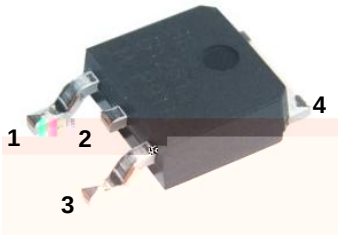
/ Applications

High voltage driver applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2,4 Collector PIN 3 Emitter

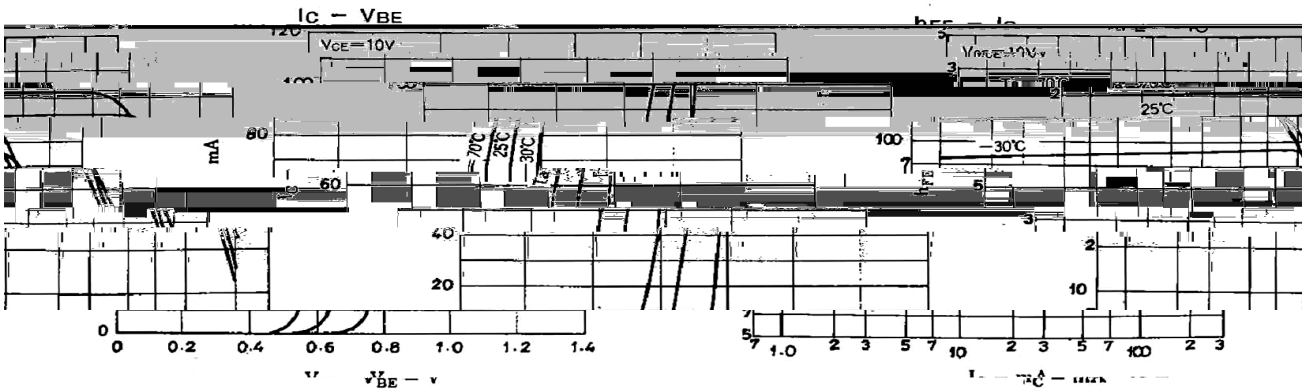
/ h_{FE} Classifications & Marking

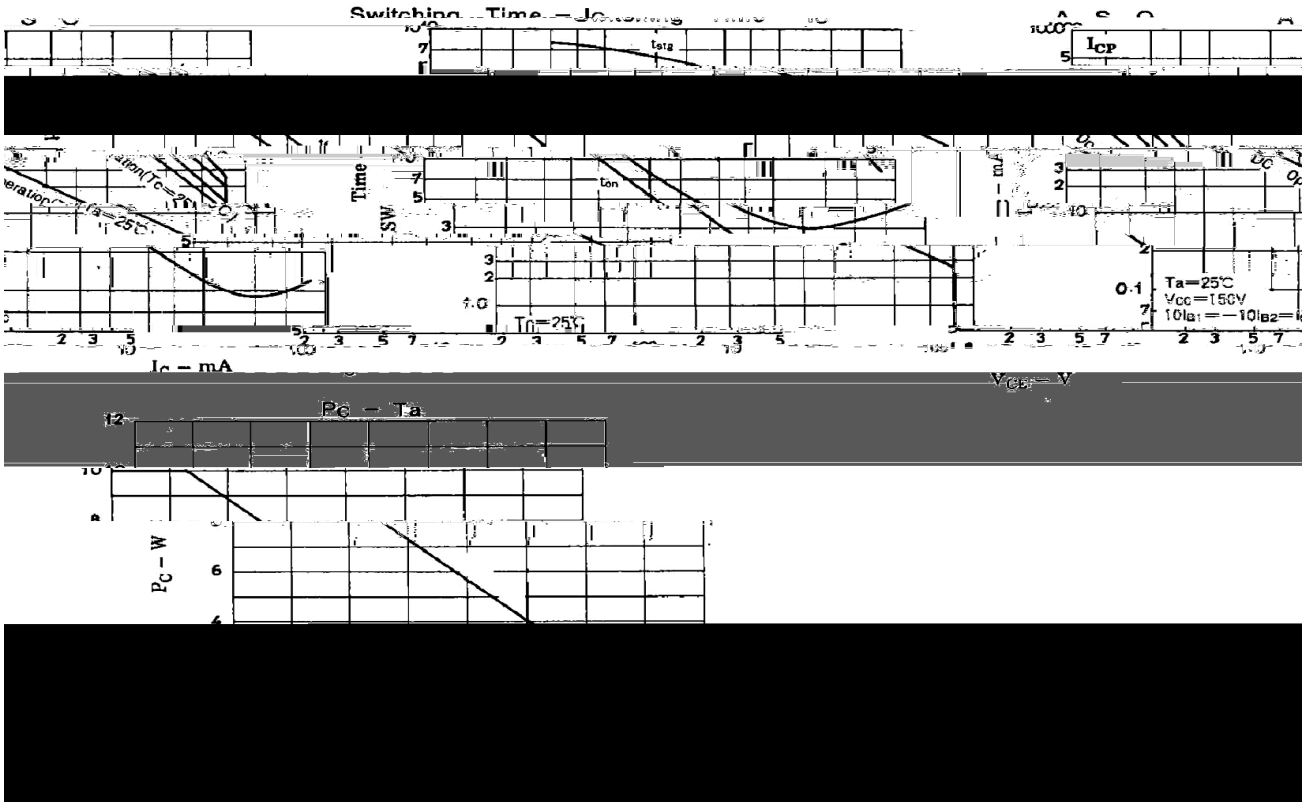
h_{FE} Classifications Symbol	D	E
h_{FE} Range	60 120	100 200

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	$P_C(T_c=25\ \ )$	10	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

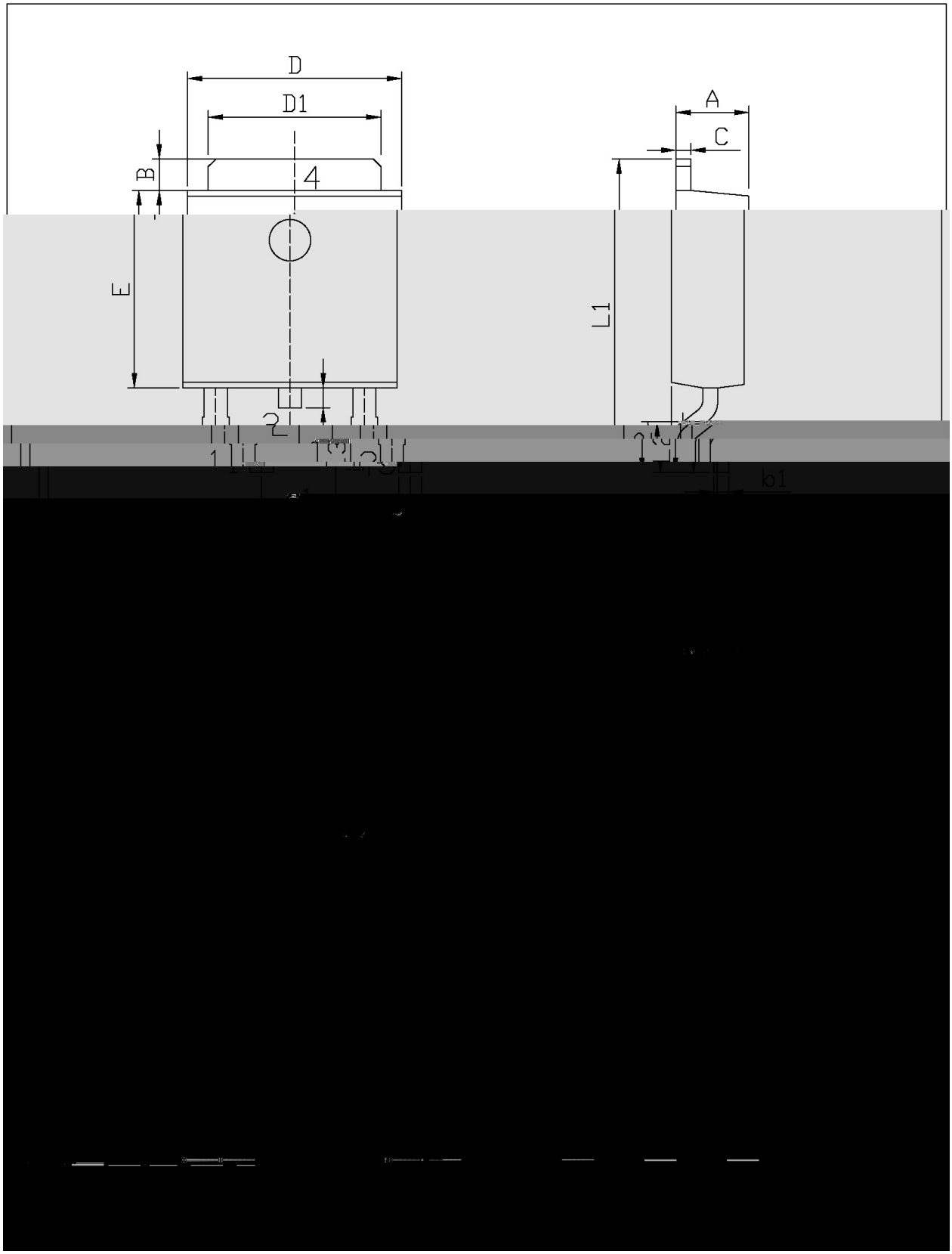
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=10μA I_E=0	400			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=1.0mA R_{BE}=∞	400			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=10μA I_C=0	5.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=300V 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		MH_Z
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=3KΩ R_B=200Ω		5.0		μs

/ Electrical Characteristic Curve

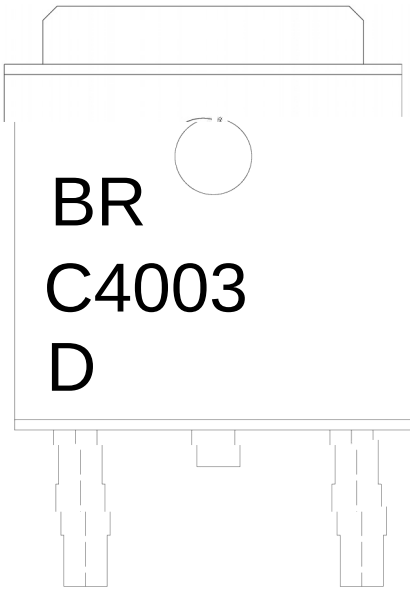




/ Package Dimensions



/ Marking Instructions



BR

C4003

D: h_{FE}

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Note:

BR: Company Code

C4003: Product Type.

D: h_{FE} Classifications Symbol

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

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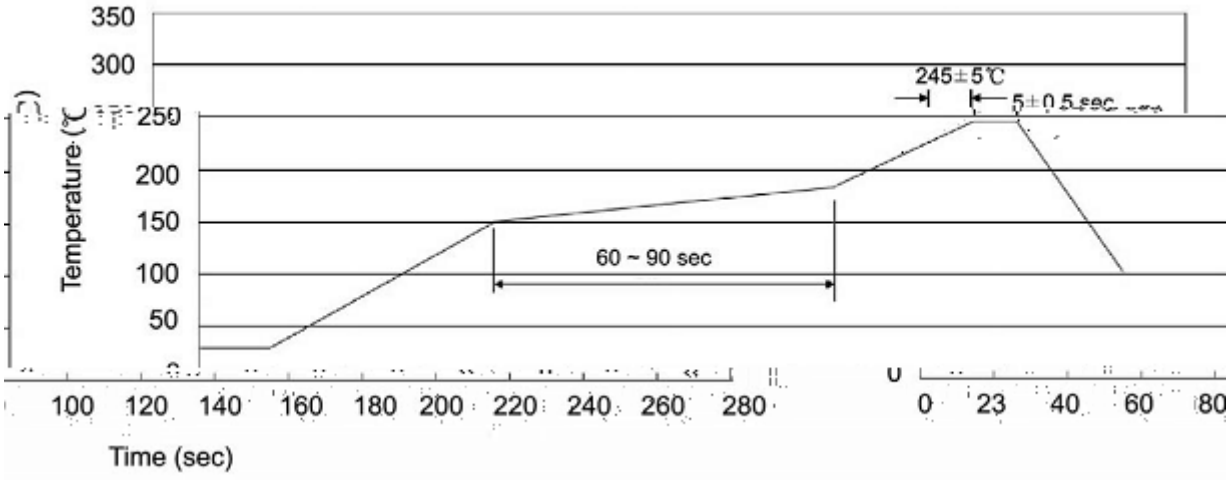

Note:

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