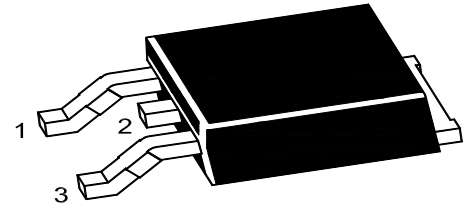


### Features

- For switching and amplifier applications
- Low collector saturation voltage

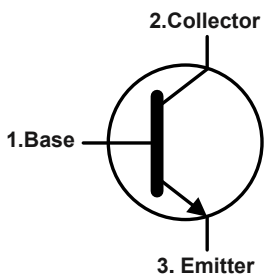
### TO-252



1.Base 2.Collector 3. Emitter

**Marking Code : 13003**

### Equivalent Circuit



### Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

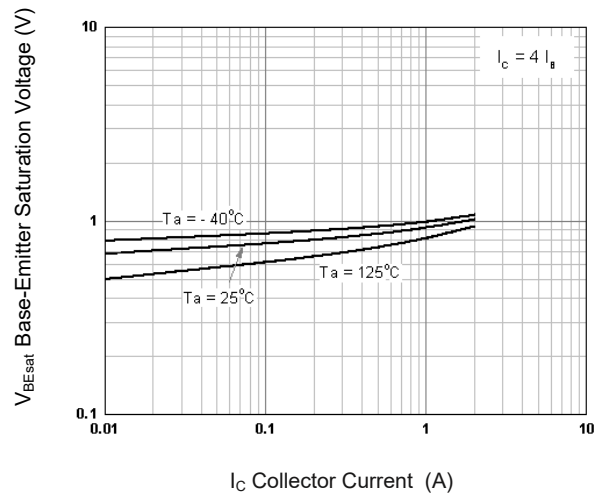
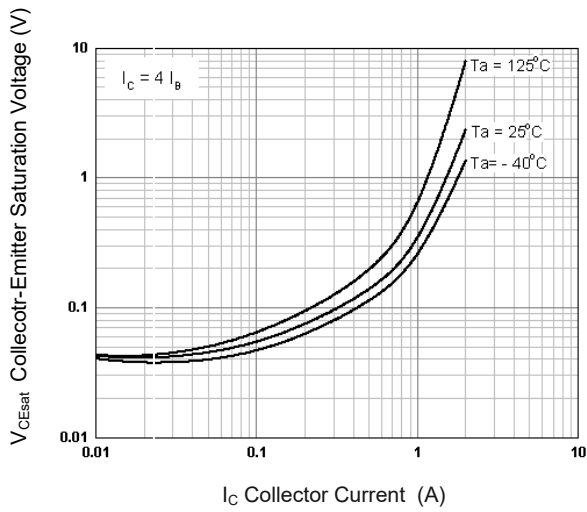
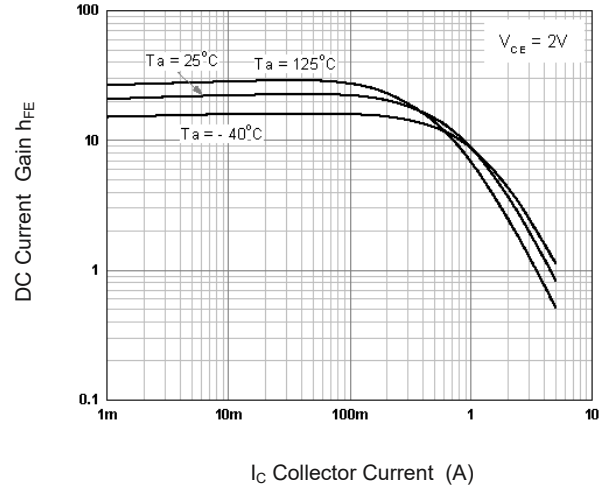
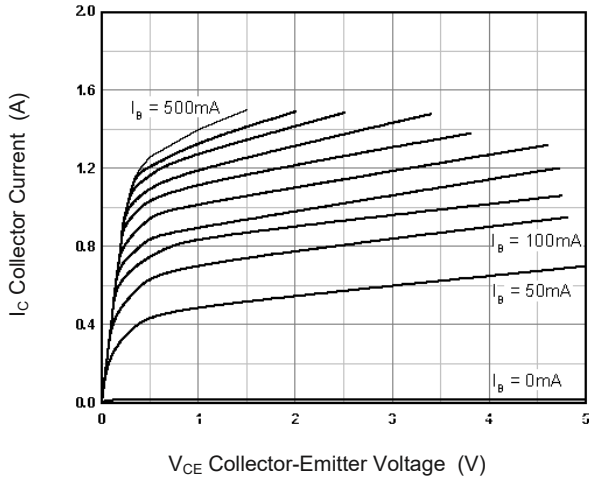
Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	800	V
Collector Emitter Voltage	$V_{CEO}$	430	V
Emitter Base Voltage	$V_{EBO}$	9	V
Collector Current	$I_C$	1.5	A
Peak Collector Current	$I_{CM}$	3	A
Maximum Power Dissipation	$P_D$	1.25	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C



### Electrical Characteristics (T<sub>A</sub>=25°C)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V <sub>CE</sub> = 2 V, I <sub>C</sub> = 500 mA at V <sub>CE</sub> = 2 V, I <sub>C</sub> = 1 A at V <sub>CE</sub> = 5 V, I <sub>C</sub> = 200 mA	H <sub>FE</sub>	10 8 15	40 40 40	--
Collector Base Cutoff Current at V <sub>CB</sub> = 700 V	I <sub>CB0</sub>	--	10	μA
Emitter Base Cutoff Current at V <sub>EB</sub> = 9 V	I <sub>EBO</sub>	--	10	μA
Collector Base Breakdown Voltage at I <sub>C</sub> = 500 μA	V <sub>(BR)CBO</sub>	800	--	V
Collector Emitter Breakdown Voltage at I <sub>C</sub> = 5 mA	V <sub>(BR)CEO</sub>	430	--	V
Emitter Base Breakdown Voltage at I <sub>E</sub> = 500 μA	V <sub>(BR)EBO</sub>	9	--	V
Collector Emitter Saturation Voltage at I <sub>C</sub> = 500 mA, I <sub>B</sub> = 100 mA at I <sub>C</sub> = 1 A, I <sub>B</sub> = 250 mA	V <sub>CE(sat)</sub>	-- --	0.5 1	V
Base Emitter Saturation Voltage at I <sub>C</sub> = 500 mA, I <sub>B</sub> = 100 mA at I <sub>C</sub> = 1 A, I <sub>B</sub> = 250 mA	V <sub>BE(sat)</sub>	-- --	1 1.2	V
Transition Frequency at V <sub>CE</sub> = 10 V, I <sub>C</sub> = 100 mA, f=1MHz	f <sub>T</sub>	5	--	MHz

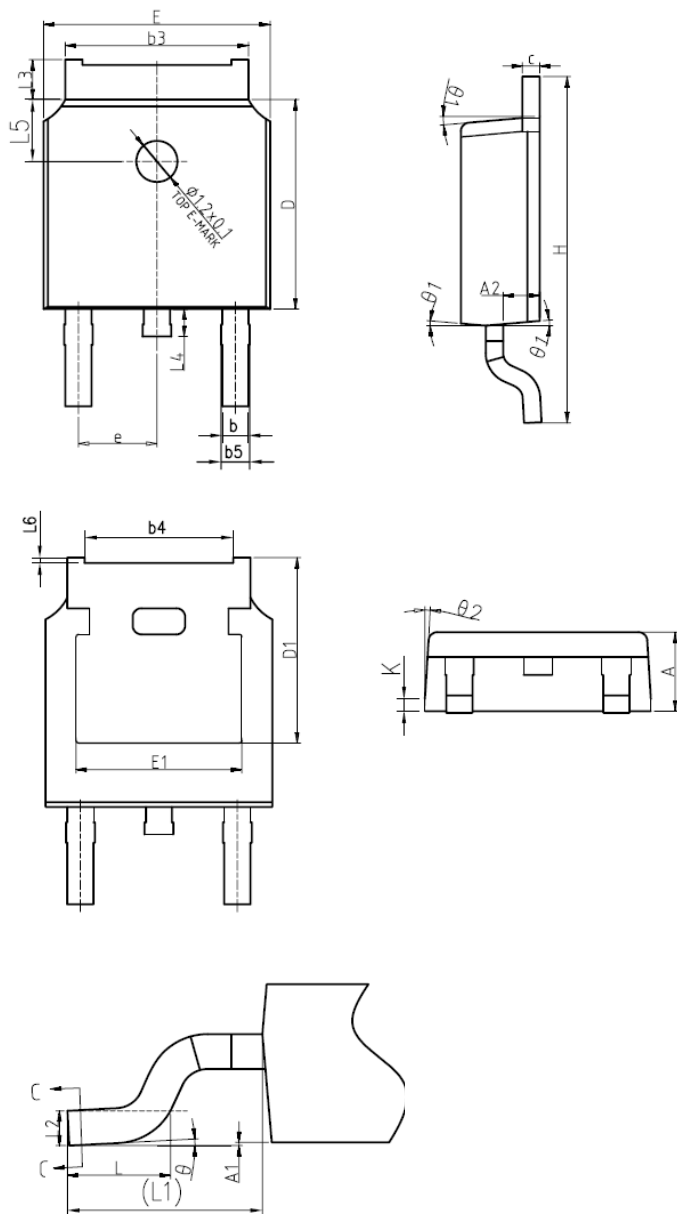
### Typical Characteristic Curves



### Package Outline

TO-252

Dimensions in mm



Symbol	mm		
	Min.	Nom.	Max.
*A	2.20	2.30	2.38
*A1	0.00	--	0.10
A2	0.97	1.07	1.17
*b	0.72	0.78	0.85
b1	0.71	0.76	0.81
*b3	5.23	5.33	5.46
b4	4.27	4.32	4.37
b5	0.72	0.88	0.93
*c	0.47	0.53	0.58
c1	0.46	0.51	0.56
*D	6.00	6.10	6.20
D1	5.30REF		
*E	6.50	6.60	6.70
E1	4.70	4.83	4.92
*e	2.286BSC		
*H	9.90	10.10	10.30
L	1.40	1.50	1.70
L1	2.90REF		
L2	0.51BSC		
*L3	0.90	--	1.25
*L4	0.60	0.80	1.00
L5	1.70	1.80	1.90
L6	0	0.047	0.123
$\theta$	0°	--	8°
* $\theta 1$	5°	7°	9°
$\theta 2$	5°	7°	9°
K	0.40REF		
带*为检验尺寸			