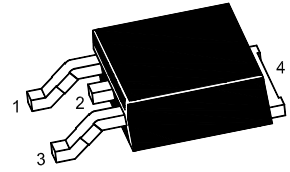


# 2SB1184R

## PNP Silicon Epitaxial Planar Transistor

for power switching and amplifier applications



1. Base 2. Collector 3. Emitter 4. Collector  
TO-252 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	3	A
Power Dissipation	$P_{tot}$	15	W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C/W}$
Power Dissipation <sup>1)</sup>	$P_{tot}$	1.2	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	104	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	- 55 to + 150	$^\circ\text{C}$

<sup>1)</sup> Device mounted on FR-4 PCB with minimum pad size recommended.

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 3\text{ V}$ , $-I_C = 0.5\text{ A}$	$h_{FE}$	120	-	270	-
Collector Base Cutoff Current at $-V_{CB} = 40\text{ V}$	$-I_{CBO}$	-	-	1	$\mu\text{A}$
Emitter Base Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	-	1	$\mu\text{A}$
Collector Base Breakdown Voltage at $-I_C = 50\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 50\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 2\text{ A}$ , $-I_B = 0.2\text{ A}$	$-V_{CE(sat)}$	-	-	1	V
Base Emitter Saturation Voltage at $-I_C = 1.5\text{ A}$ , $-I_B = 0.15\text{ A}$	$-V_{BE(sat)}$	-	-	1.2	V
Transition Frequency at $-V_{CE} = 5\text{ V}$ , $-I_C = 0.1\text{ A}$ , $f = 30\text{ MHz}$	$f_T$	-	110	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	26	-	pF

**TOP DYNAMIC**



ISO14001 : 2004 Certificate No. 121505007  
 ISO 9001 : 2008 Certificate No. 50114012  
 OHSAS 18001 : 2007 Certificate No. 05131508008  
 IECQ QC 080000 Certificate No. E2241M001 A1R2

Dated: 01/09/2016 Rev: 03

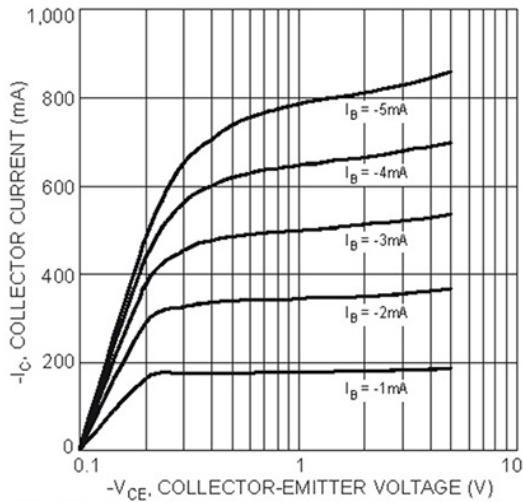


Fig. 1 Typical Collector Current vs. Collector-Emitter Voltage

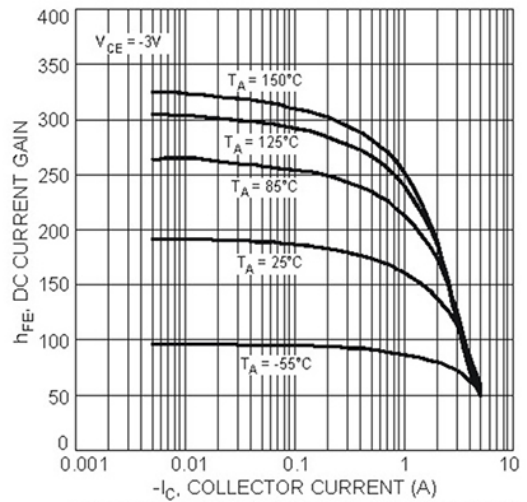


Fig. 2 Typical DC Current Gain vs. Collector Current

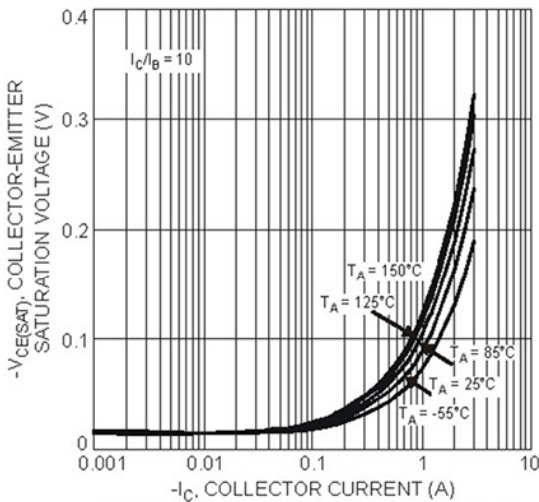


Fig. 3 Typical Collector-Emitter Saturation Voltage vs. Collector Current

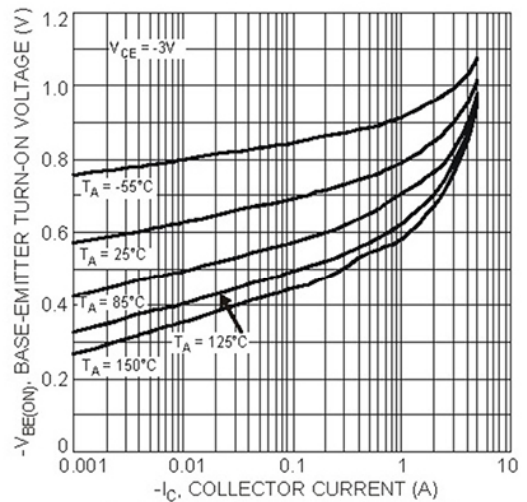


Fig. 4 Typical Base-Emitter Turn-On Voltage vs. Collector Current

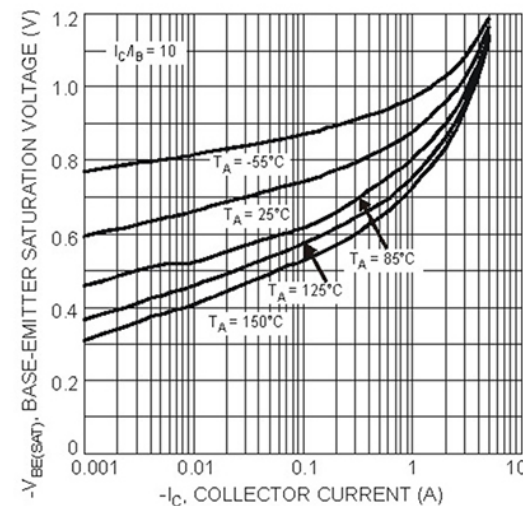


Fig. 5 Typical Base-Emitter Saturation Voltage vs. Collector Current

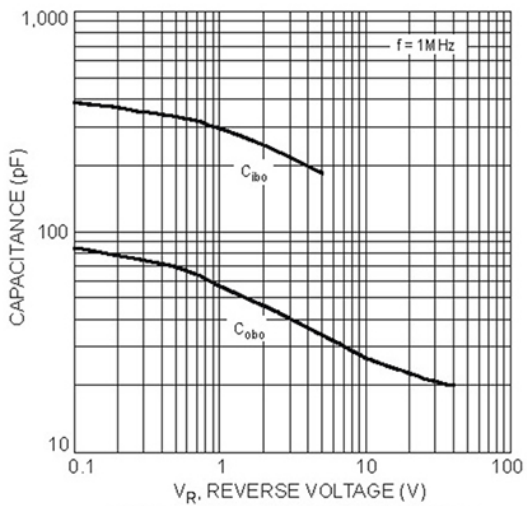
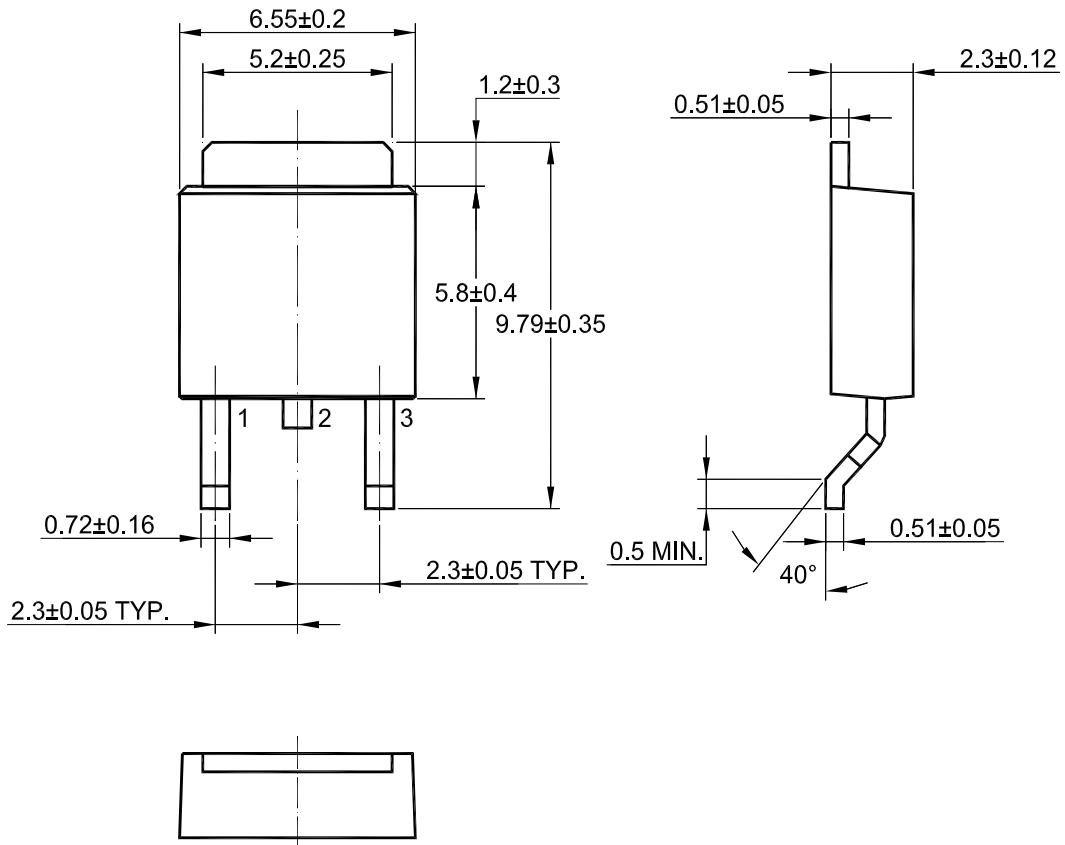


Fig. 6 Typical Capacitance Characteristics

# 2SB1184R

## TO-252 PACKAGE OUTLINE



Dimensions in mm

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