

ST 2SA1458

PNP Silicon Epitaxial Planar Transistor

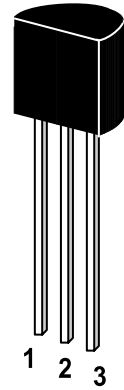
for general purpose amplifier and high speed switching applications.

The transistor is subdivided into three groups M, L and K, according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.

Features

- High frequency current gain
- High speed switching
- Small output capacitance
- Low collector saturation voltage
- Complementary to ST 2SC3731 NPN transistor



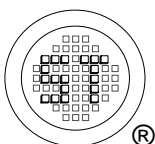
1. Emitter 2. Collector 3. Base

TO-92 Plastic Package

Weight approx. 0.19g

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

	Symbol	Value	Unit
Collector Base Voltage	$-V_{\text{CBO}}$	40	V
Collector Emitter Voltage	$-V_{\text{CEO}}$	40	V
Emitter Base Voltage	$-V_{\text{EBO}}$	5	V
Collector Current (DC)	$-I_{\text{C}}$	200	mA
Power Dissipation	P_{tot}	250	mW
Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{s}	-55 to+150	$^\circ\text{C}$



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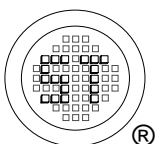
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Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain*					
at $-V_{CE}=1\text{V}$, $-I_C=100\text{mA}$					
Current Gain Group M	h_{FE}	75	-	150	-
L	h_{FE}	100	-	200	-
K	h_{FE}	150	-	300	-
at $-V_{CE}=1\text{V}$, $-I_C=1\text{mA}$	h_{FE}	25	100	-	-
Collector Cutoff Current					
at $-V_{CB}=30\text{V}$	$-I_{CBO}$	-	-	0.1	μA
Emitter Cutoff Current					
at $-V_{EB}=3\text{V}$	$-I_{EBO}$	-	-	0.1	μA
Collector Saturation Voltage*					
at $-I_C=50\text{mA}$, $-I_B=5\text{mA}$	$-V_{CE(sat)}$	-	0.1	0.4	V
Base Saturation Voltage*					
at $-I_C=50\text{mA}$, $-I_B=5\text{mA}$	$-V_{BE(sat)}$	-	0.8	0.95	V
Turn-on Time					
See test circuit	t_{on}	-	-	70	ns
Storage Time					
See test circuit	t_{stg}	-	110	225	ns
Turn-off Time					
See test circuit	t_{off}	-	-	300	ns
Gain Bandwidth Product					
at $-V_{CE}=20\text{V}$, $I_E=10\text{mA}$, $f=100\text{MHz}$	f_T	200	510	-	MHz
Output Capacitance					
at $-V_{CB}=5\text{V}$, $f=1\text{MHz}$	C_{OB}	-	2.5	4.5	pF

*Pulsed $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$



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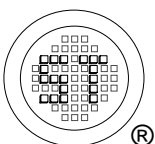
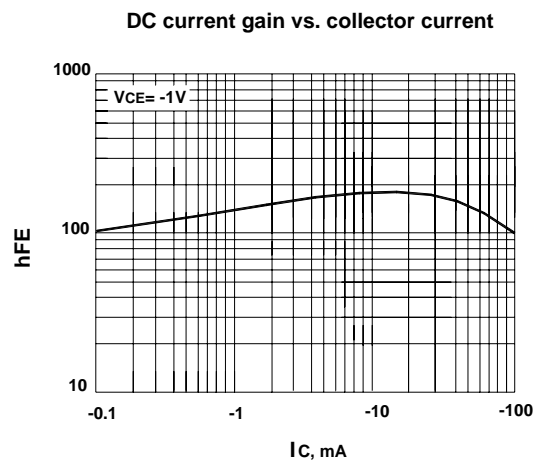
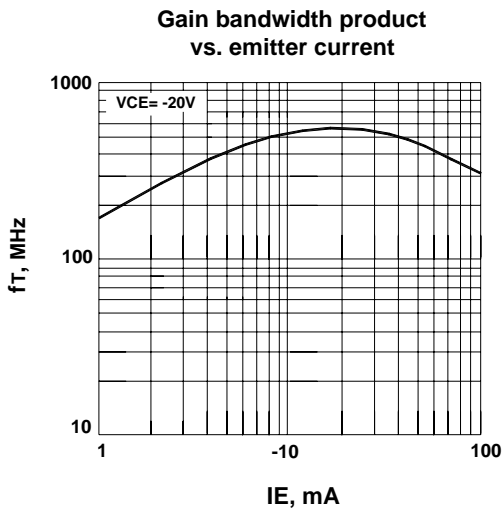
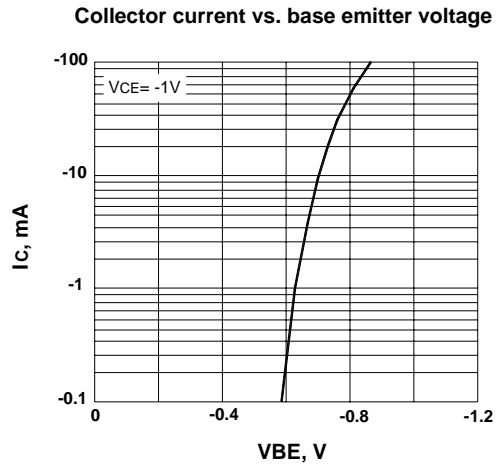
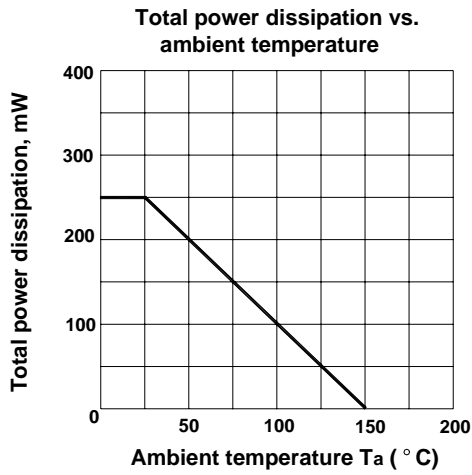
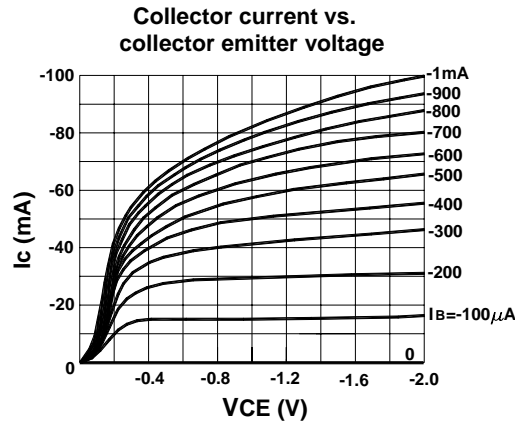
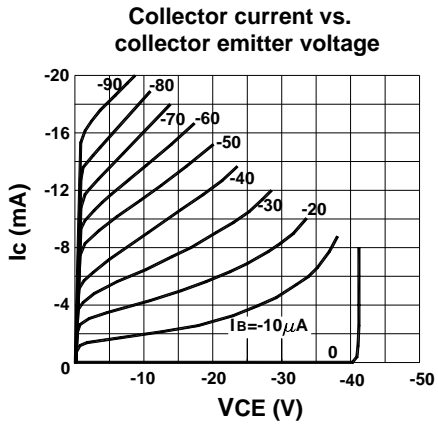


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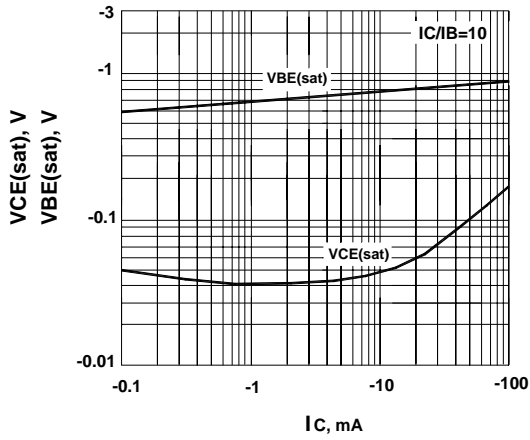
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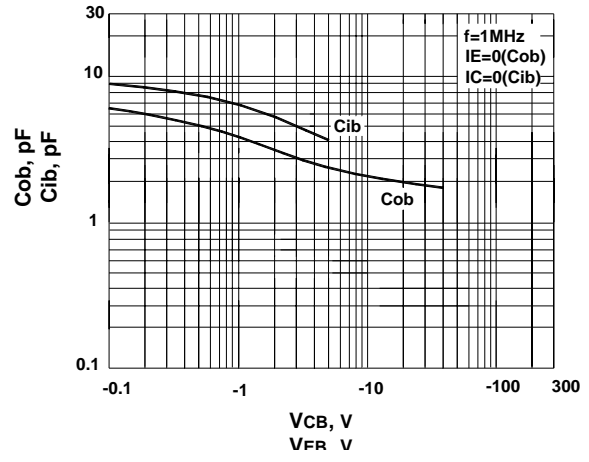
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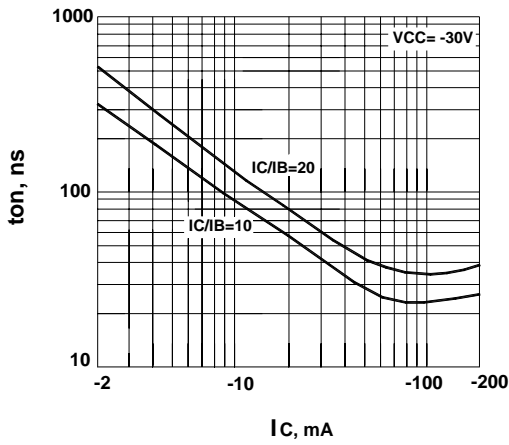
Base and collector saturation voltage vs. collector current



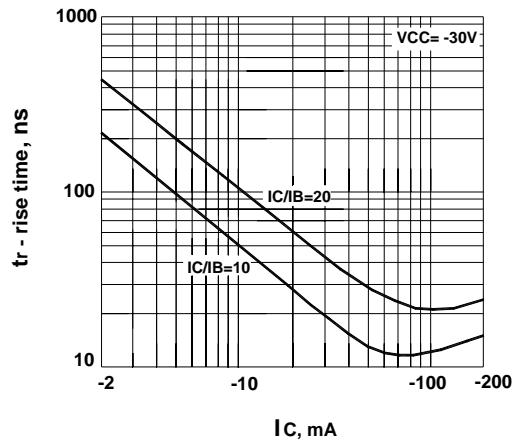
Input and output capacitance vs. reverse voltage



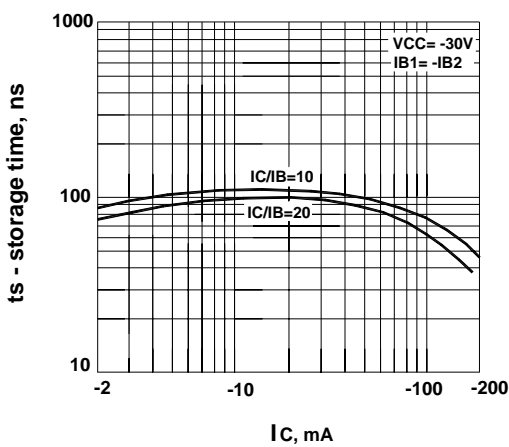
Turn on time vs. collector current



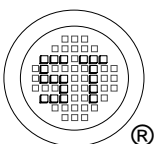
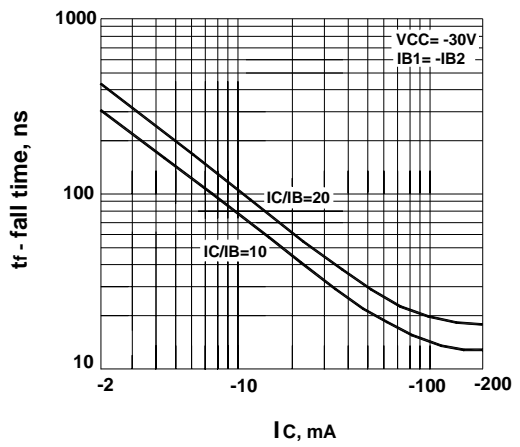
Rise time vs. collector current



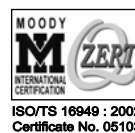
Storage time vs. collector current



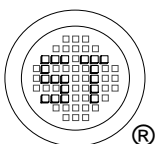
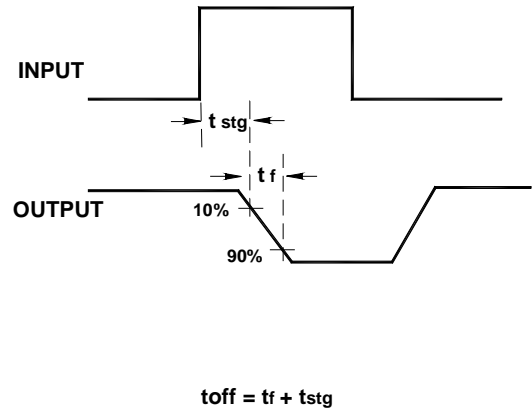
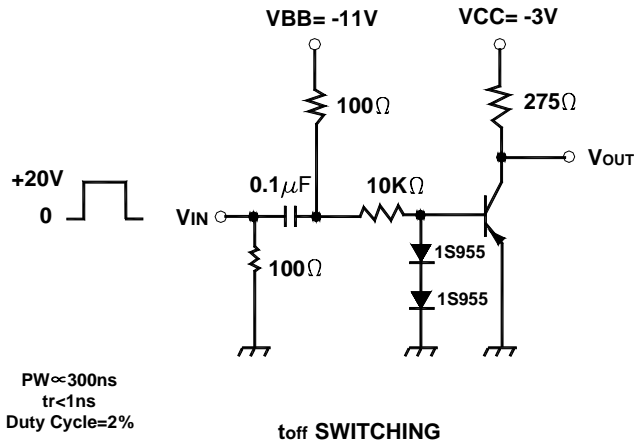
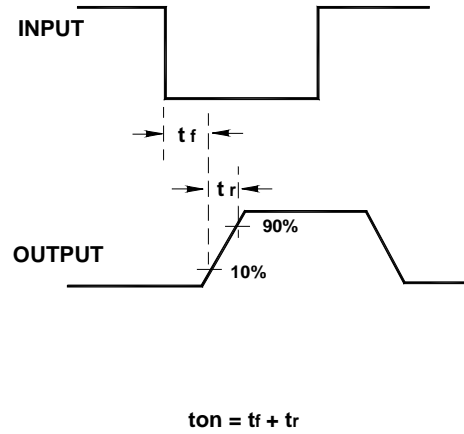
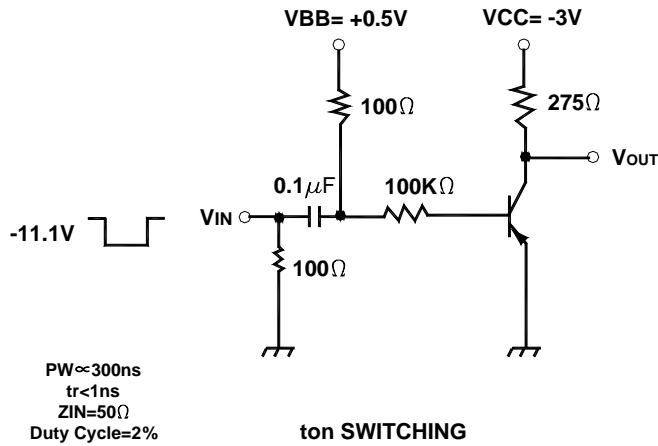
Fall time vs. collector current



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