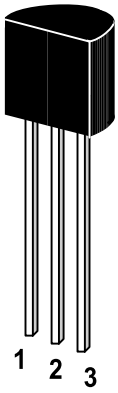
ST 2SA1458

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.



1. Emitter 2. Collector 3. Base

TO-92 Plastic Package
Weight approx. 0.19g

Features

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

Absolute Maximum Ratings ($T_a = 25\,^{O}C$)

	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	40	V
Collector Emitter Voltage	$-V_{CEO}$	40	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current (DC)	$-I_C$	200	mA
Power Dissipation	P_{tot}	250	mW
Junction Temperature	T_j	150	^{O}C
Storage Temperature Range	T_S	-55 to+150	^{O}C

G S P FORM A IS AVAILABLE

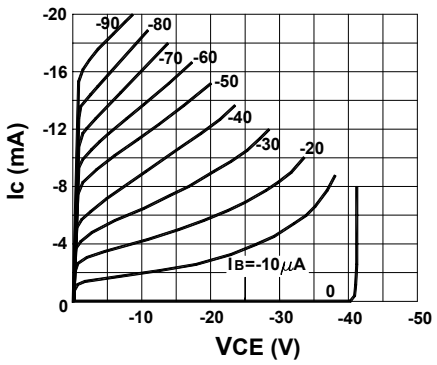
Characteristics at T_{amb}=25 °C

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain*					
at $-V_{CE}$=1V, $-I_C$=100mA					
Current Gain Group M	h_{FE}	75	-	150	-
L	h_{FE}	100	-	200	-
K	h_{FE}	150	-	300	-
at $-V_{CE}$=1V, $-I_C$=1mA	h_{FE}	25	100	-	-
Collector Cutoff Current					
at $-V_{CB}$=30V	$-I_{CBO}$	-	-	0.1	μA
Emitter Cutoff Current					
at $-V_{EB}$=3V	$-I_{EBO}$	-	-	0.1	μA
Collector Saturation Voltage*					
at $-I_C$=50mA, $-I_B$=5mA	$-V_{CE(sat)}$	-	0.1	0.4	V
Base Saturation Voltage*					
at $-I_C$=50mA, $-I_B$=5mA	$-V_{BE(sat)}$	-	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 $-V_{CE}$=20V, I_E=10mA, f=100MHz	f_T	200	510	-	MHz
Output Capacitance					
at $-V_{CB}$=5V, f=1MHz	C_{OB}	-	2.5	4.5	pF

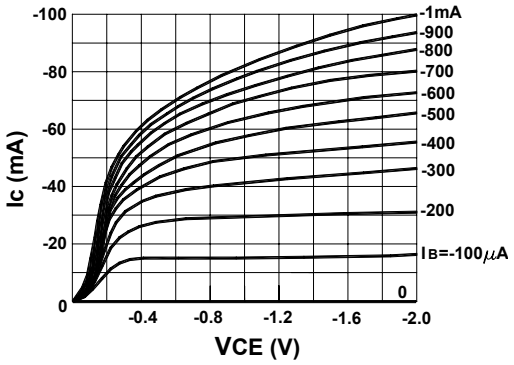
*Pulsed PW≦350μs, Duty Cycle≦2%

G S P FORM A IS AVAILABLE

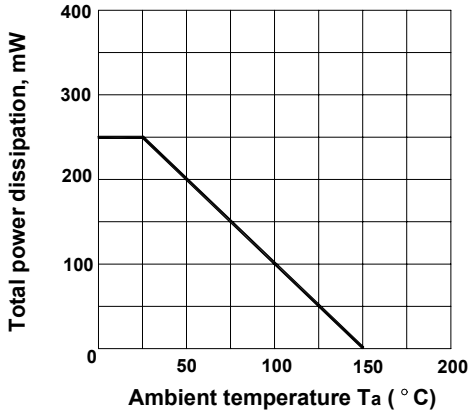
Collector current vs.
collector emitter voltage



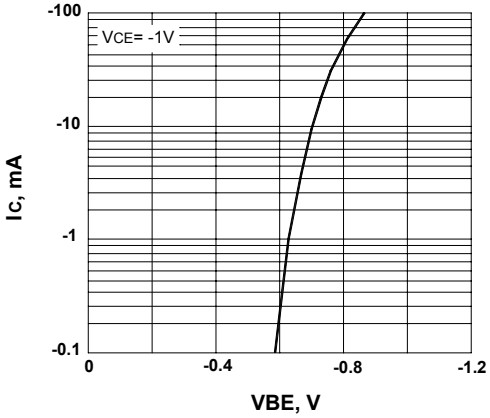
Collector current vs.
collector emitter voltage



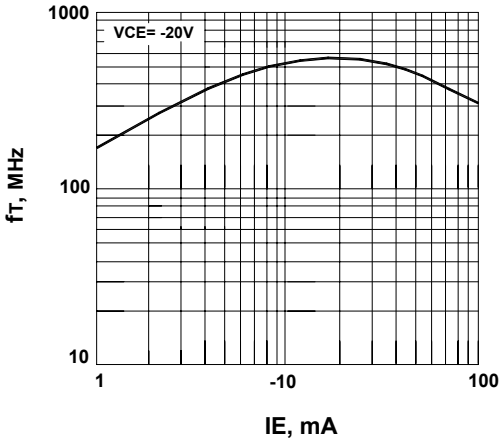
Total power dissipation vs.
ambient temperature



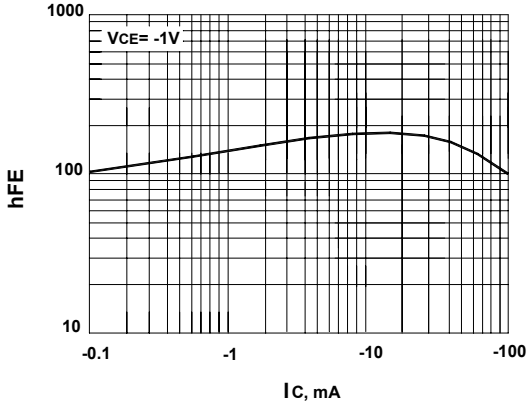
Collector current vs. base emitter voltage



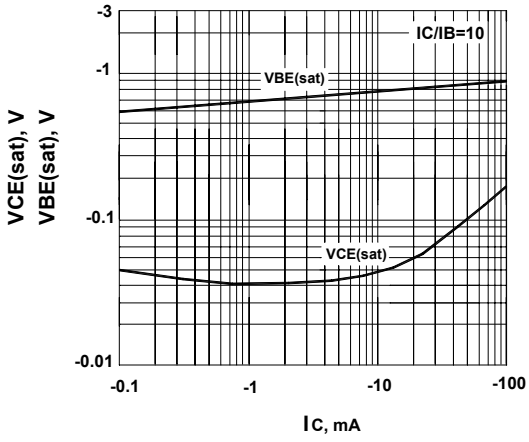
Gain bandwidth product
vs. emitter current



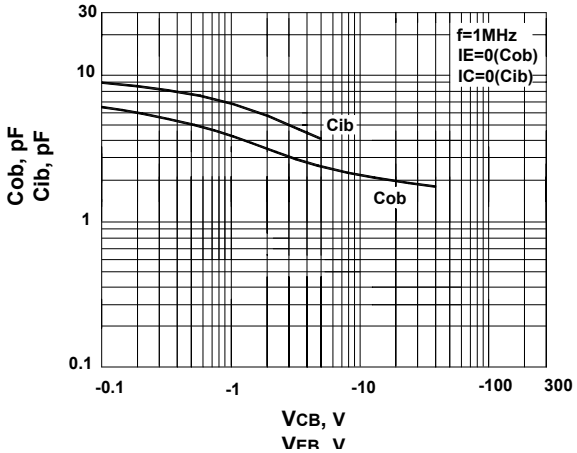
DC current gain vs. collector current



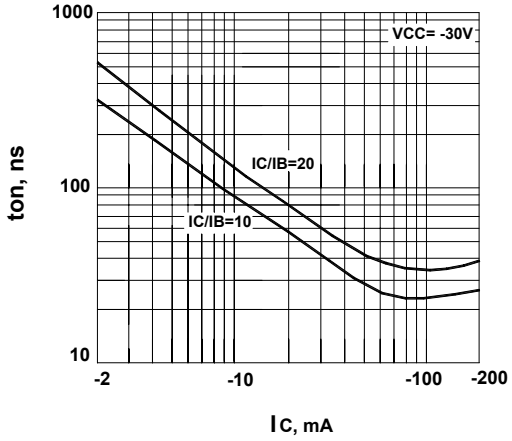
Base and collector saturation voltage vs. collector current



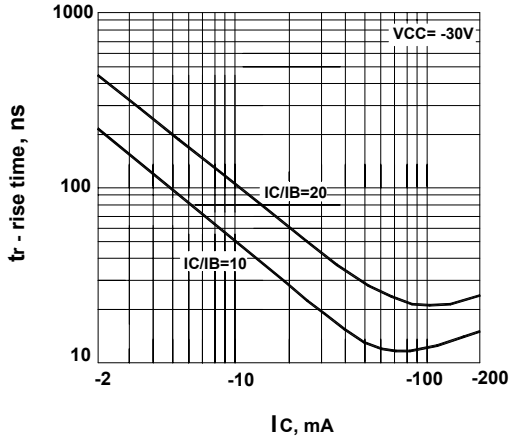
Input and output capacitance vs. reverse voltage



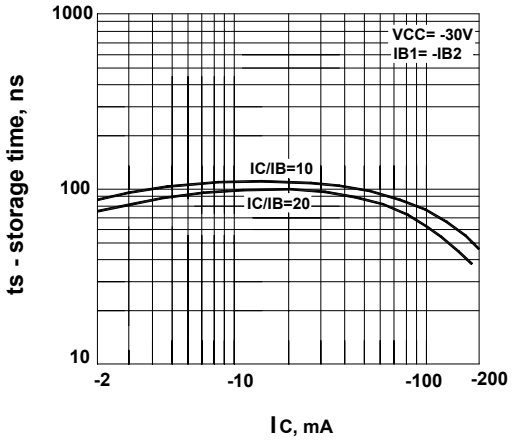
Turn on time vs. collector current



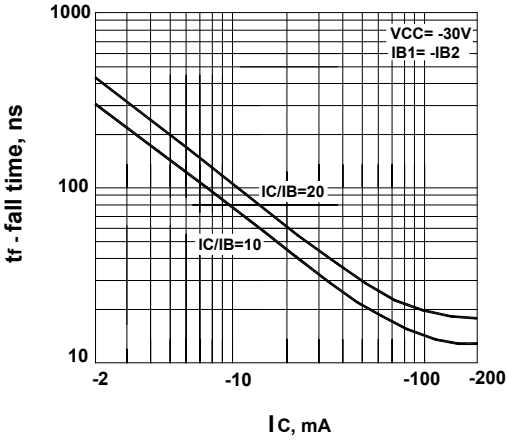
Rise time vs. collector current

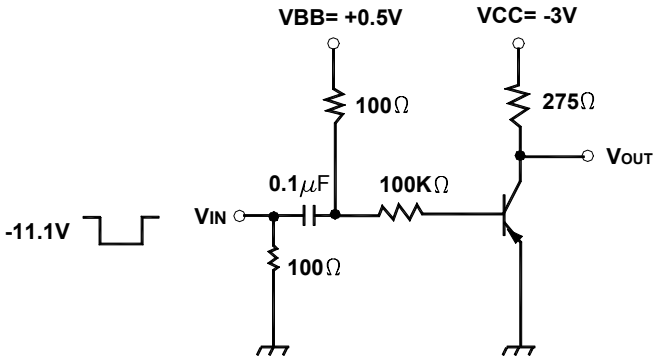


Storage time vs. collector current



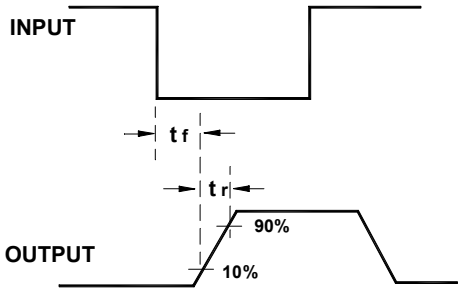
Fall time vs. collector current



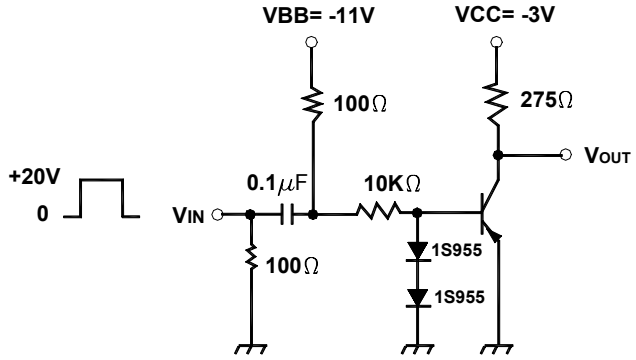


PW≂300ns
tr<1ns
ZIN=50Ω
Duty Cycle=2%

ton SWITCHING

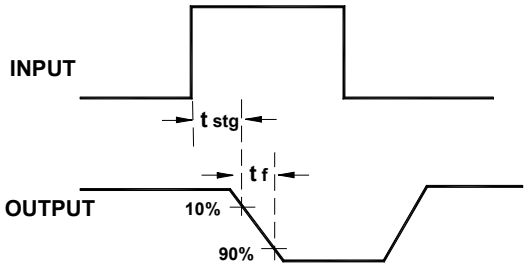


ton = tf + tr



PW≂300ns
tr<1ns
Duty Cycle=2%

toff SWITCHING



toff = tf + tstg