

Silicon PNP Power Transistors

2SA1012

DESCRIPTION

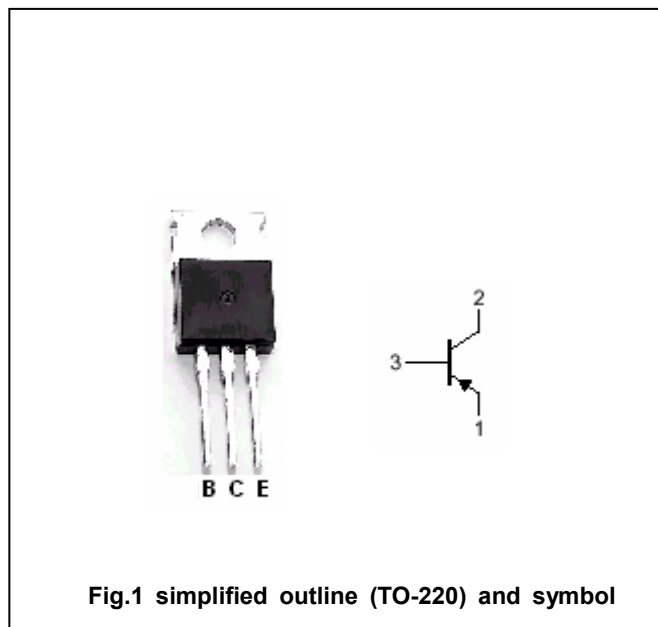
- With TO-220 package
- Complement to type 2SD2562
- Low saturation voltage
- High speed switching time

APPLICATIONS

- High current switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector;connected to mounting base
3	Base

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-60	V
V_{CEO}	Collector-emitter voltage	Open base	-50	V
V_{EBO}	Emitter-base voltage	Open collector	-5	V
I_C	Collector current		-5	A
P_T	Total power dissipation	$T_C=25^\circ\text{C}$	25	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

Silicon PNP Power Transistors

2SA1012

CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-10mA$, $I_B=0$	-50			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=-3A$; $I_B=-0.15A$			-0.4	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=-3A$; $I_B=-0.15A$			-1.2	V
I_{CBO}	Collector cut-off current	$V_{CB}=-50V$; $I_E=0$			-1	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=-5V$; $I_C=0$			-1	μA
h_{FE-1}	DC current gain	$I_C=-1A$; $V_{CE}=-1V$	70		240	
h_{FE-2}	DC current gain	$I_C=-3A$; $V_{CE}=-1V$	30			
f_T	Transition frequency	$I_C=-1A$; $V_{CE}=-4V$		60		MHz
C_{ob}	Output capacitance	$f=1MHz$; $V_{CB}=10V$		170		pF

Switching times

t_{on}	Turn-on time	$I_C=-3A$; $I_{B1}=-I_{B2}=-0.15A$ $R_L=10\Omega$, $V_{CC}=30V$		0.1		μs
t_s	Storage time			1.0		μs
t_f	Fall time			0.1		μs

◆ h_{FE-1} Classifications

O	Y
70-140	120-240

Silicon PNP Power Transistors

2SA1012

PACKAGE OUTLINE

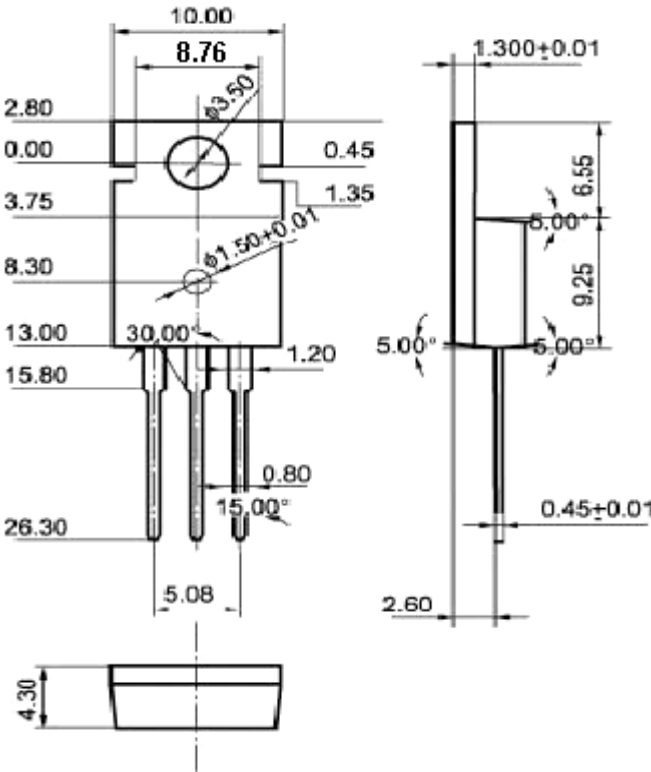


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)

Silicon PNP Power Transistors

2SA1012

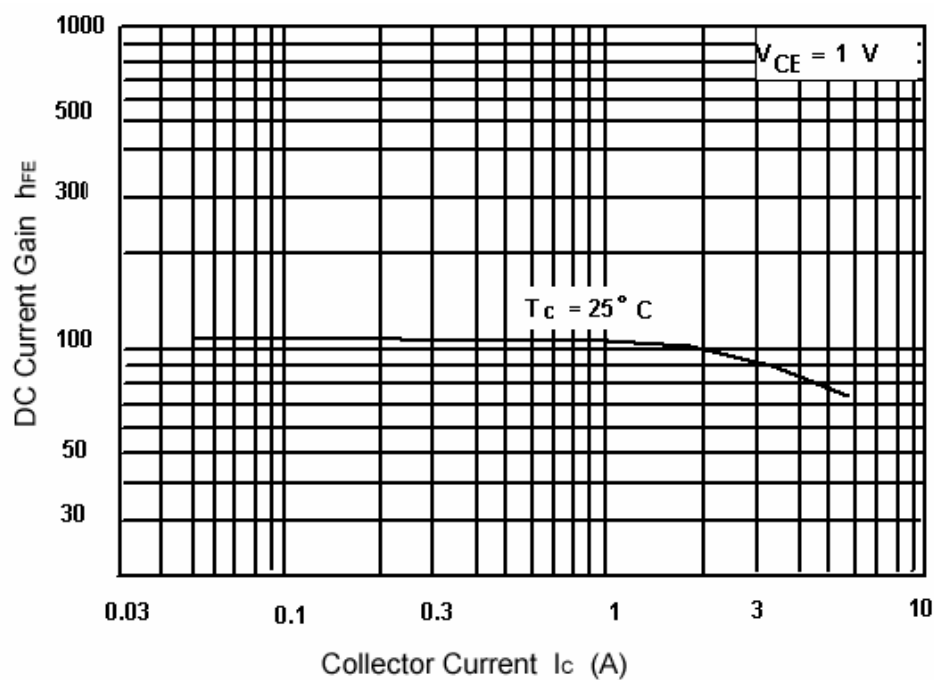


Fig.3 DC current Gain

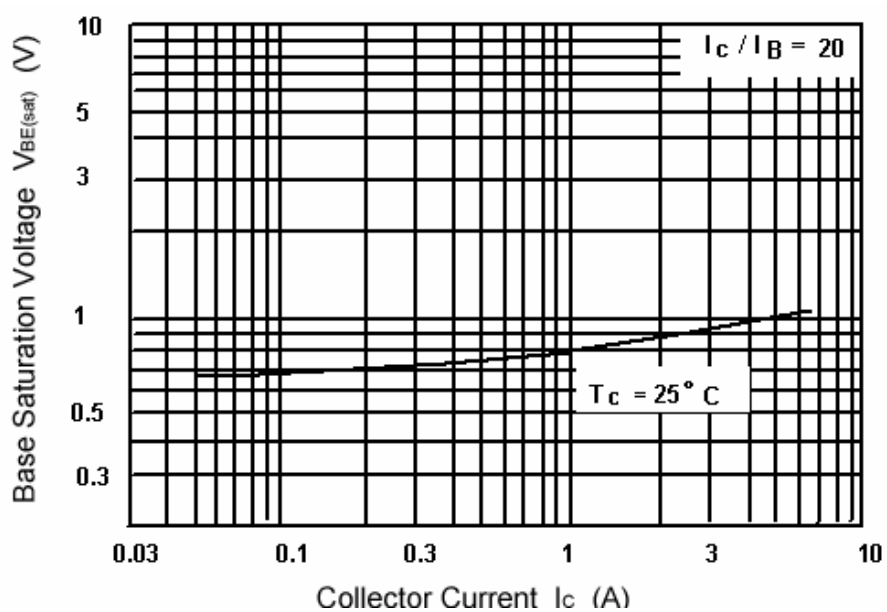


Fig.4 Base-Emitter Saturation Voltage

Silicon PNP Power Transistors

2SA1012

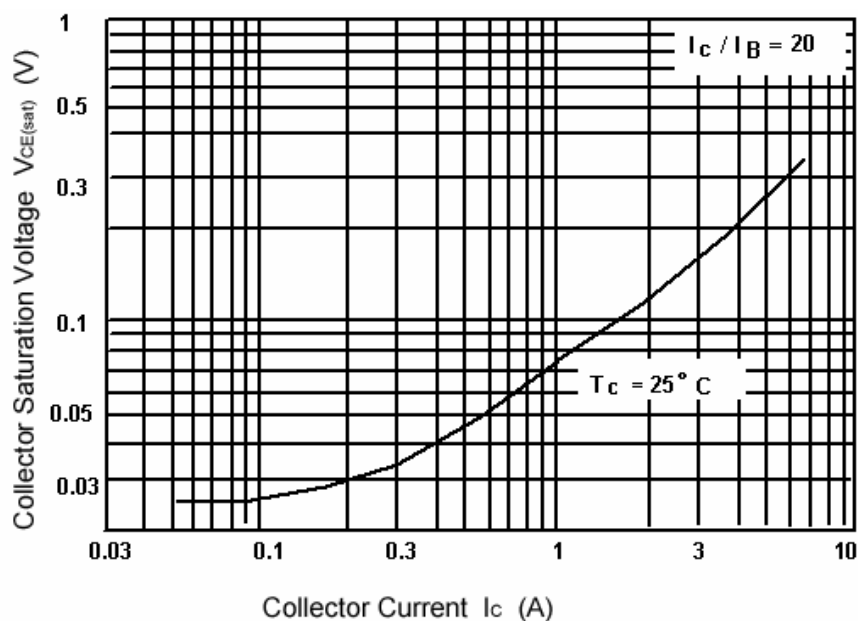


Fig.5 Collector-Emitter Saturation Voltage

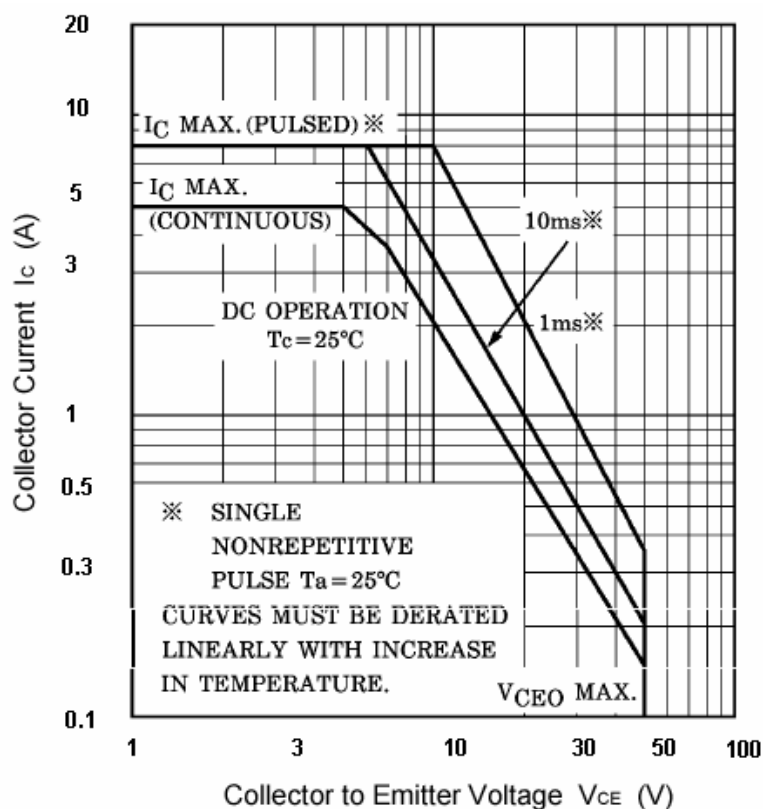


Fig.6 Safe Operating Area