

Silicon PNP Transistor

BD908

Power Linear and Switching

60V / 15A

DATASHEET

OEM –SGS Ates

Source: SGS Ates Databook 1977

EPITAXIAL-BASE PNP

BD 906
BD 908
BD 910
BD 912

POWER LINEAR AND SWITCHING APPLICATIONS

The BD 906, BD 908, BD 910 and BD 912 are silicon epitaxial-base PNP power transistors in Jedec TO-220 plastic package.

They are intended for use in power linear and switching applications.

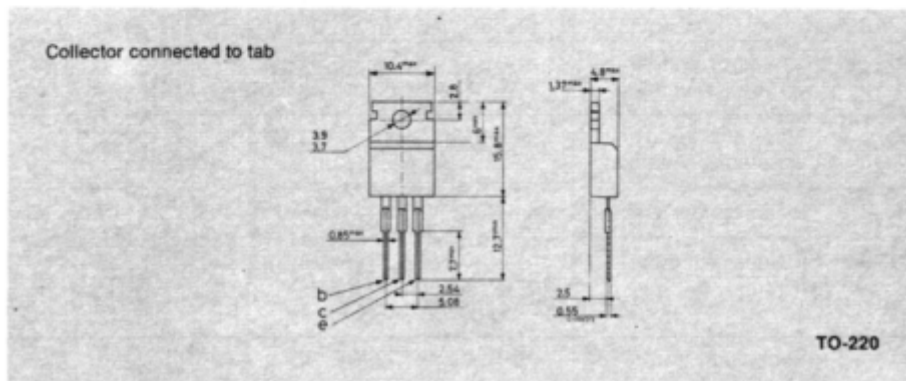
The complementary NPN types are the BD 905, BD 907, BD 909 and BD 911 respectively.

ABSOLUTE MAXIMUM RATINGS

		BD906	BD908	BD910	BD912
V_{CBO}	Collector-base voltage ($I_E = 0$)	-45V	-60V	-80V	-100V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	-45V	-60V	-80V	-100V
V_{EBO}	Emitter-base voltage ($I_C = 0$)			-5V	
I_E, I_C	Emitter and collector current			-15A	
I_B	Base current			-5A	
P_{tot}	Total power dissipation at $T_{case} \leq 25^\circ C$			90W	
T_{stg}	Storage temperature			-65 to 150°C	
T_j	Junction temperature			150°C	

MECHANICAL DATA

Dimensions in mm



BD 906
BD 908
BD 910
BD 912

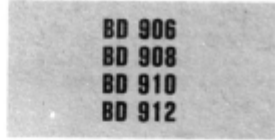
THERMAL DATA

$R_{th\ j-case}$	Thermal resistance junction-case	max	1.4	$^{\circ}C/W$
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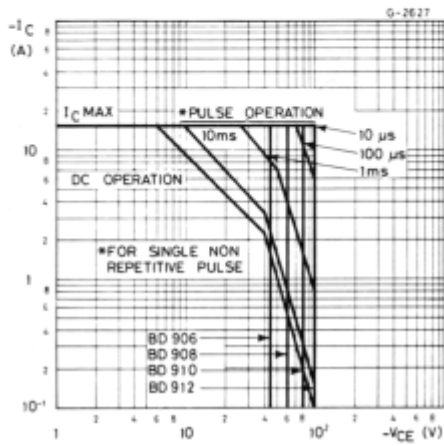
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO} Collector cutoff current ($I_E = 0$)	for BD906 $V_{CB} = -45V$			-500	μA
	for BD908 $V_{CB} = -60V$			-500	μA
	for BD910 $V_{CB} = -80V$			-500	μA
	for BD912 $V_{CB} = -100V$			-500	μA
	$T_{case} = 150^{\circ}C$				
	for BD906 $V_{CB} = -45V$			-5	mA
	for BD908 $V_{CB} = -60V$			-5	mA
	for BD910 $V_{CB} = -80V$			-5	mA
	for BD912 $V_{CB} = -100V$			-5	mA
I_{CEO} Collector cutoff current ($I_B = 0$)	for BD906 $V_{CE} = -30V$			-1	mA
	for BD908 $V_{CE} = -30V$			-1	mA
	for BD910 $V_{CE} = -40V$			-1	mA
	for BD912 $V_{CE} = -50V$			-1	mA
I_{EBO} Emitter cutoff current ($I_C = 0$)	$V_{EB} = -5V$			-1	mA
$V_{CEO(sus)}$ * Collector-emitter sustaining voltage ($I_B = 0$)	$I_C = -100mA$				V
	for BD906	-45			V
	for BD908	-60			V
	for BD910	-80			V
	for BD912	-100			V
$V_{CE(sat)}$ * Collector-emitter saturation voltage	$I_C = -5A$ $I_B = -0.5A$			-1	V
	$I_C = -10A$ $I_B = -2.5A$			-3	V
$V_{BE(sat)}$ * Base-emitter saturation voltage	$I_C = -10A$ $I_B = -2.5A$			-2.5	V
V_{BE} * Base-emitter voltage	$I_C = -5A$ $V_{CE} = -4V$			-1.5	V
h_{FE} * DC current gain	$I_C = -0.5A$ $V_{CE} = -4V$	40		250	—
	$I_C = -5A$ $V_{CE} = -4V$	15		150	—
	$I_C = -10A$ $V_{CE} = -4V$	5			—
f_T Transition frequency	$I_C = -0.5A$ $V_{CE} = -4V$	3			MHz

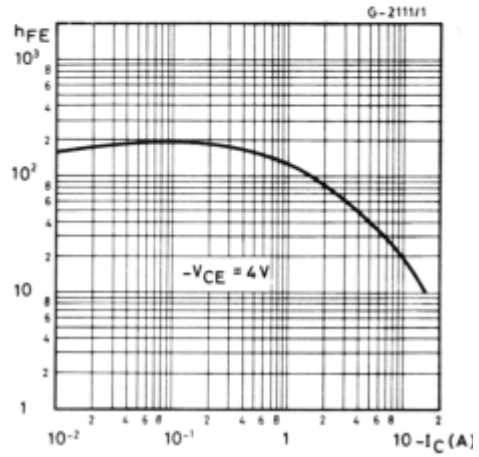
* Pulsed: pulse duration = 300 μs , duty cycle = 1.5%



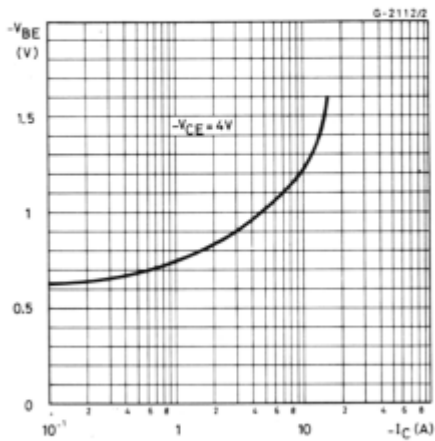
Safe operating areas



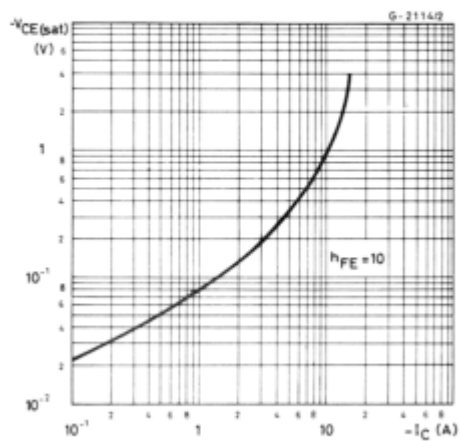
DC current gain



DC transconductance

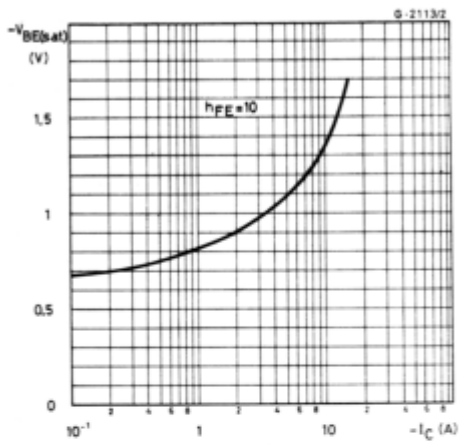


Collector-emitter saturation voltage

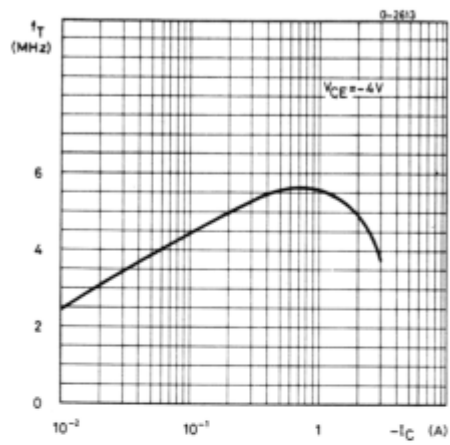




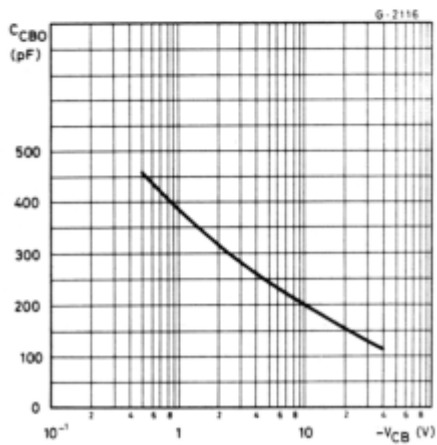
Base-emitter saturation voltage



Transition frequency



Collector-base capacitance



Power rating chart

