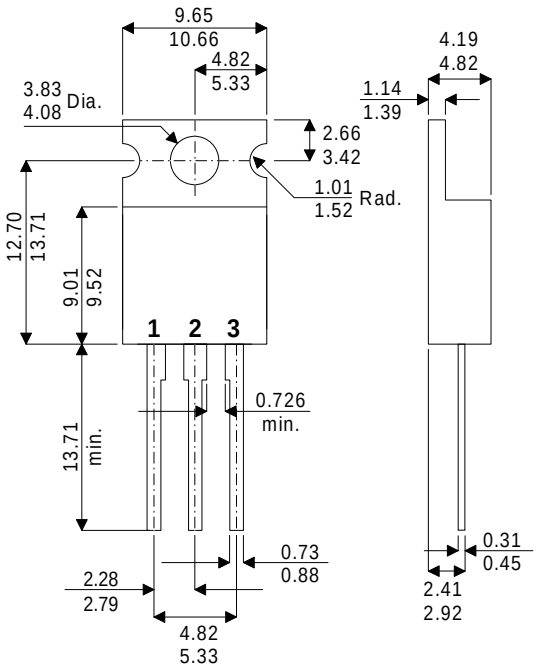
BD950 BD952
BD954 BD956

MECHANICAL DATA
Dimensions in mm



SILICON EPITAXIAL BASE PNP POWER TRANSISTORS

PNP Transistors in a plastic TO–220 package.

With their NPN complements BD949 ; 951 ; 953 and 955 they are intended for use in a wide range of power amplifiers and for switching applications.

TO–220AB TO220 Plastic Package

Pin 1 – Base Pin 2 – Collector Pin 3 – Emitter

Collector connected to Mounting Base.

ABSOLUTE MAXIMUM RATINGS
(T_{case} = 25°C unless otherwise stated)

			BD950	BD952	BD954	BD956
V_{CBO}	Collector – Base Voltage		-60V	-80V	-100V	-120V
V_{CEO}	Collector – Emitter Voltage		-60V	-80V	-100V	-120V
V_{EBO}	Emitter – Base Voltage		-5V			
I_C	Collector Current		-5A			
I_{CM}	Peak Collector Current		-8A			
P_{tot}	Total Power Dissipation	$T_{amb} \leq 25°C$	40W			
T_{stg}	Storage Temperature Range		-65 to 150°C			
T_J	Maximum Junction Temperature		150°C			

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MAGNA TEC

BD950 BD952 BD954 BD956

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
V_{BE*}	Base – Emitter Voltage[1]	I_C = –2A	V_{CE} = –4V			1.4	V
$V_{CE(sat)*}$	Collector – Emitter Saturation Voltage	I_C = –2A	I_B = –0.2A			1	V
I_{CBO}	Collector Cut-off Current	I_E = 0	V_{CB} = $V_{CBO(MAX)}$			0.1	mA
		I_E = 0	V_{CB} = ½$V_{CBO(MAX)}$ T_J = 150°C			2	mA
		I_B = 0	V_{CE} = ½$V_{CEO(MAX)}$			0.5	mA
I_{EBO}	Emitter Cut-off Current	I_C = 0	V_{EB} = –5V			1	mA
h_{FE*}	DC Current Gain	I_C = –0.5A	V_{CE} = –4V	40			—
		I_C = –2A	V_{CE} = –4V	20			—
f_T	Transition Frequency	I_C = –0.5A f = 1MHz	V_{CE} = –4V	3			MHz
t_{ON}	Turn-on Time	$I_{C(ON)}$ = 1A			0.1		µs
t_{OFF}	Turn-off Time	$-I_{B(ON)}$ = $I_{B(OFF)}$ = 0.1A			0.4		µs

* Pulse Test: $t_p \leq 300\mu s$, $\delta < 2\%$

Note 1 V_{EB} decreases by abount 2.3mV/K with increasing temperature.

THERMAL CHARACTERISTICS

$R_{\theta J-MB}$	Thermal Resistance Junction to Mounting Base			3.12	K/W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient			70	K/W

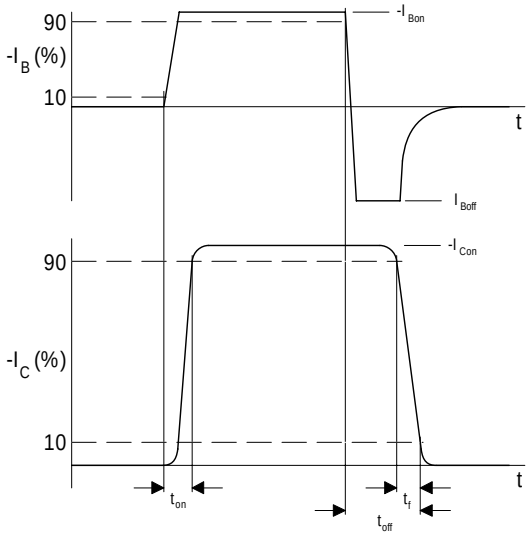
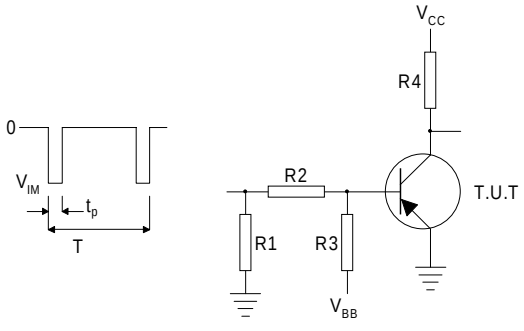


Fig. 1 Switching times waveforms.



V_{IM} = - 30 V
V_{CC} = - 20 V
V_{BB} = 3.5 V
R1 = 82 Ω
R2 = 150 Ω
R3 = 39 Ω
R4 = 20 Ω
$t_r = t_f \leq$ 15 ns
t_p = 10 µs
T = 500 µs

Fig. 2 Switching times test circuit.

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