Silicon PNP Transistor

BDX18

Power Linear and Switching

90V / 15A

DATASHEET

OEM –SGS Ates

Source: SGS Ates Databook 1977

Datasheet Rev. 2.0 – 09/19 – data without warranty / liability

BDX 18

EPITAXIAL-BASE PNP

POWER LINEAR AND SWITCHING APPLICATIONS

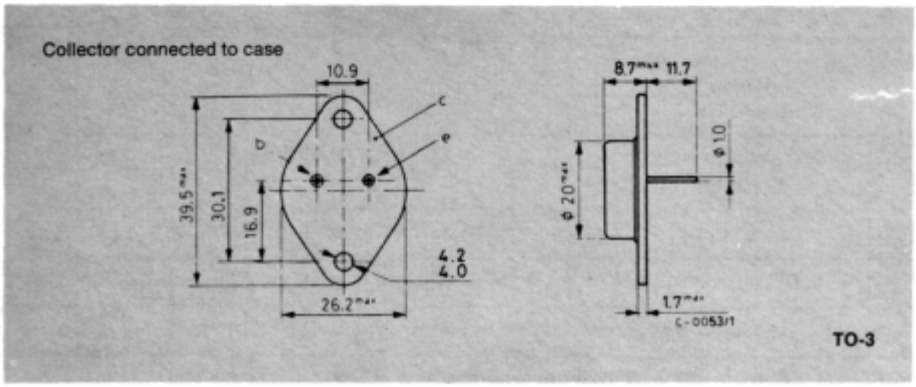
The BDX 18 is a silicon epitaxial-base PNP power transistor in Jedec TO-3 metal case. It is intended for power switching circuits, series and shunt regulators, output stages and hi-fi amplifiers.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	-100	V
V_{CEX}	Collector-emitter voltage ($V_{BE} = 1.5$ V)	-90	V
V_{CER}	Collector-emitter voltage ($R_{BE} = 100\ \Omega$)	-70	V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	-60	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	-7	V
I_C	Collector current	-15	A
I_B	Base current	-7	A
P_{tot}	Total power dissipation at $T_{case} \leq 25°C$	117	W
T_{stg}	Storage temperature	-65 to 200	°C
T_j	Junction temperature	200	°C

MECHANICAL DATA

Dimensions in mm



BDX 18

THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	1.5	°C/W

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

	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector cutoff current (V_{BE} = 1.5 V)	V_{CE} = -90 V V_{CE} = -60 V T_{case} = 150°C			-5 -10	mA mA
I_{CEO}	Collector cutoff current (I_B = 0)	V_{CE} = -30 V			-0.7	mA
I_{EBO}	Emitter cutoff current (I_C = 0)	V_{BE} = 7 V			-5	mA
$V_{CEX\ (sus)}$*	Collector-emitter sustaining voltage (V_{BE} = 1.5 V, R_{BE} = 100 Ω)	I_C = -100 mA	-90			V
$V_{CER\ (sus)}$*	Collector-emitter sustaining voltage (R_{BE} = 100 Ω)	I_C = -200 mA	-70			V
$V_{CEO\ (sus)}$*	Collector-emitter sustaining voltage (I_B = 0)	I_C = -200 mA	-60			V
$V_{CE\ (sat)}$*	Collector-emitter saturation voltage	I_C = -4 A I_B = -0.4 A			-1.1	V
V_{BE}*	Base-emitter voltage	I_C = -4 A V_{CE} = -4 V			-1.8	V
h_{FE}*	DC current gain	I_C = -4 A V_{CE} = -4 V	20		70	—
f_T	Transition frequency	I_C = -1 A V_{CE} = -10 V	4			MHz

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

For characteristic curves see the BDW52 series