DESCRIPTION

The BD136, BD138 and BD140 are available in TO-126 (SOT32) Package.

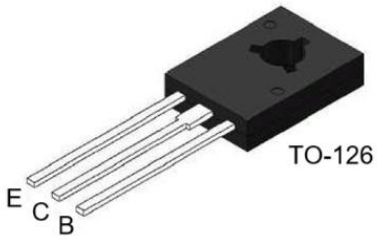
FEATURE

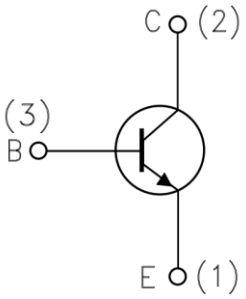
- Complement to BD135, BD137 and BD139 Respectively
- Available in TO-126 (SOT32) Package

ORDERING INFORMATION

Package Type	Part Number
TO-126 (SOT32)	BD136-6
	BD136-10
	BD136-16
	BD138-6
	BD138-10
	BD138-16
	BD140-6
	BD140-10
	BD140-16
Note	SPQ: 500pcs/Bag
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





PNP

Symbol	DESCRIPTION
1	EMITTER
2	COLLECTOR
3	BASE

h_{FE} TABLE

Range	BD136-6 BD138-6 BD140-6	BD136-10 BD138-10 BD140-10	BD136-16 BD138-16 BD140-16
h_{FE}	40~100	63~160	100~250

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified

BV_{CBO}, Collector-Base Voltage	BD136	-45V
	BD138	-60V
	BD140	-80V
BV_{CEO}, Collector-Emitter Voltage	BD136	-45V
	BD138	-60V
	BD140	-80V
BV_{EBO}, Emitter-Base Voltage		-5V
I_C, Collector Current (DC)		-1.5A
I_{CP}, Collector Current (Pluse)		-3.0A
P_C, Collector Power Dissipation	T_A = 25°C	1.25W
	T_C = 25°C	12.5W
T_{STG}, Storage Temperature		-55℃ ~ + 150℃
T_J, Junction Temperature		+150℃

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-Emitter Sustaining Voltage*	BD136	BV_{CES}	I_C=-10mA, I_B=0	-45	-	-	V
	BD138			-60	-	-	
	BD140			-80	-	-	
Emitter-Base Breakdown Voltage		BV_{EBO}	I_E= -100μA, I_C=0	-5		-	V
Collector Cut-Off Current		I_{CBO}	I_E=0, V_{CB}= -30V	-	-	-0.1	μA
Emitter Cut-Off Current		I_{EBO}	I_C=0, V_{EB}= -5V	-	-	-10	μA
DC Current Gain*		$h_{FE}1$	I_C= -5mA, V_{CE}= -2V	25	-	-	-
		$h_{FE}2$	I_C= -0.5A, V_{CE}= -2V	25	-	-	
		$h_{FE}3$	I_C= -150mA, V_{CE}= -2V	40	-	250	
Collector-Emitter Saturation Voltage*		$V_{CE\ (SAT)}$	I_B= -50mA, I_C=-500mA	-	-	-0.5	V
Base-Emitter Saturation Voltage*		$V_{BE(ON)}$	I_C= -0.5A, V_{CE}= -2V	-	-	-1.0	V

* Pulse Test: PW=350μs, Duty Cycle = 2% Pulsed

TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. DC Current Gain

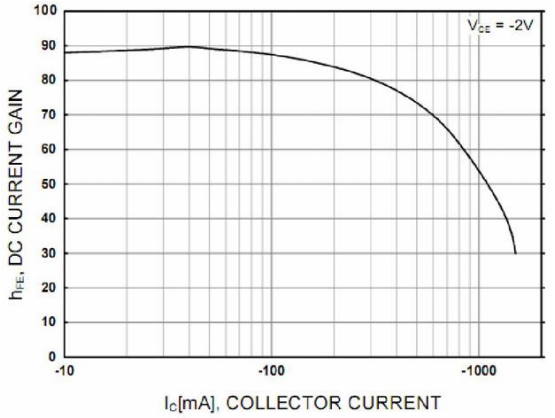


Fig 2. Collector-Emitter Saturation Voltage

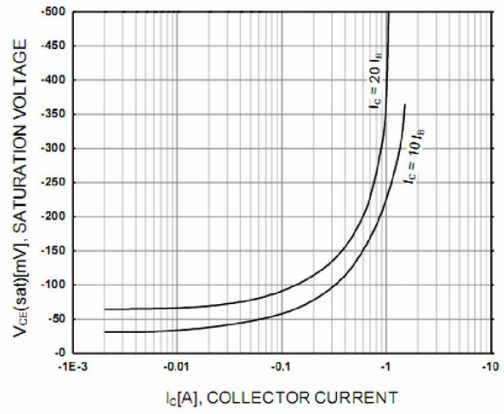


Fig 3. Base-Emitter Voltage

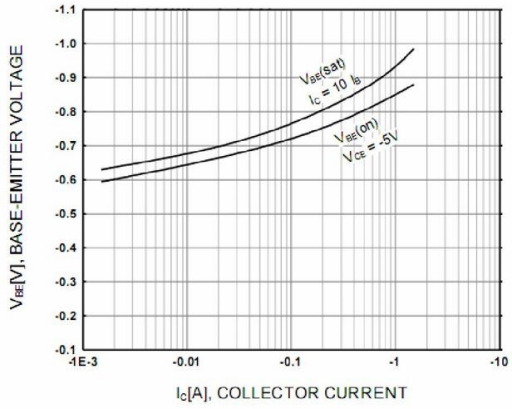


Fig 4. Safe Operating Area

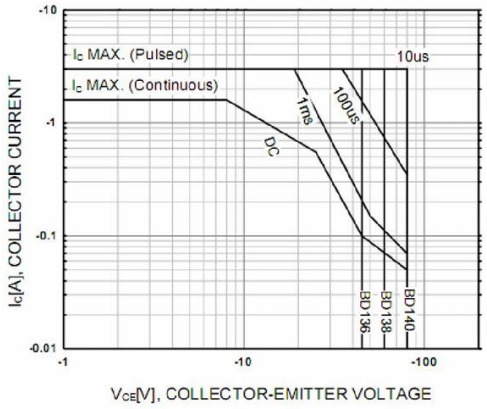
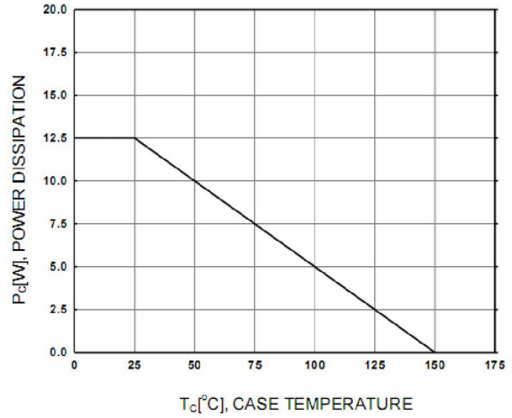
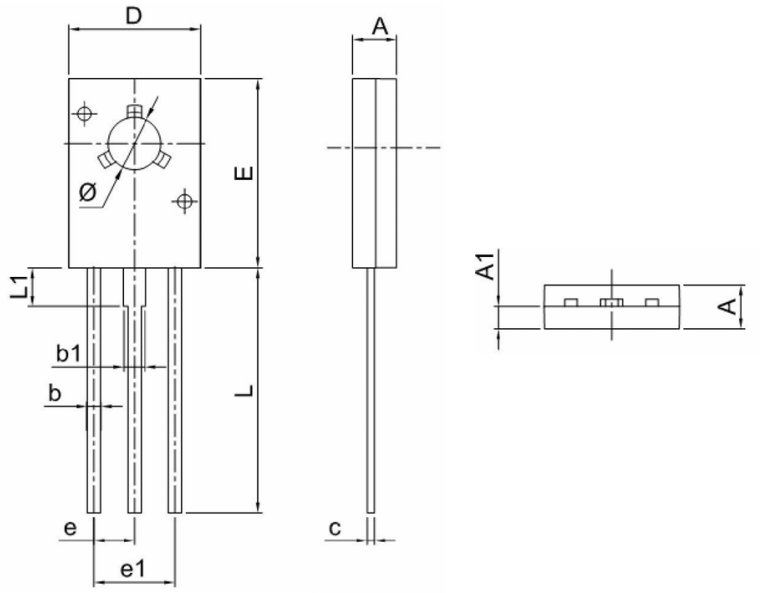


Fig 5. Power Derating



PACKAGE INFORMATION

Dimension in TO-126 (SOT32) Package (Unit: mm)



DIM	MILLIMETERS	
	MIN	MAX
A	2.400	2.800
A1	1.000	1.400
b	0.660	0.860
b1	1.170	1.370
c	0.400	0.600
D	7.300	7.700
E	10.600	11.000
e	2.250	2.330
e1	4.500	4.660
L	14.000	15.000
L1	1.900	2.500
Φ	3.100	3.300

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