

Silicon NPN Power Transistors

BD135 BD137 BD139

DESCRIPTION

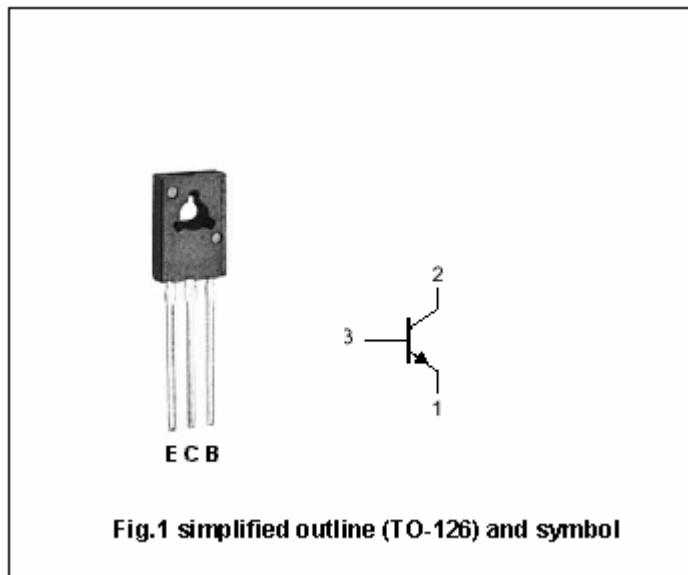
- With TO-126 package
- High current
- Complement to type BD136/138/140

APPLICATIONS

- Driver stages in high-fidelity amplifiers and television circuits

PINNING

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



Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BD135	Open emitter	45	V
		BD137		60	
		BD139		100	
V_{CEO}	Collector-emitter voltage	BD135	Open base	45	V
		BD137		60	
		BD139		100	
V_{EBO}	Emitter -base voltage		Open collector	5	V
I_C	Collector current (DC)			1.5	A
I_{CM}	Collector current-Peak			2	A
I_{BM}	Base current-Peak			1	A
P_t	Total power dissipation		$T_{mb} \leq 70^\circ\text{C}$	8	W
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~150	$^\circ\text{C}$
T_{amb}	Operating ambient temperature			-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-a}$	Thermal resistance from junction to ambient	100	K/W
$R_{th\ j-mb}$	Thermal resistance from junction to mounting base	10	K/W

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEsat}	Collector-emitter saturation voltage	I _C =0.5A; I _B =50mA			0.5	V
V _{BE}	Base-emitter voltage	I _C =500mA ; V _{CE} =2V			1.0	V
I _{CBO}	Collector cut-off current	V _{CB} =30V; I _E =0			100	nA
		V _{CB} =30V; I _E =0 T _j =125°C			10	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			100	nA
h _{FE-1}	DC current gain	I _C =5mA ; V _{CE} =2V	40			
h _{FE-2}	DC current gain BD135-10;BD137-10;BD139-10 BD135-16;BD137-16;BD139-16	I _C =150mA ; V _{CE} =2V	63 63 100		250 160 250	
h _{FE-3}	DC current gain	I _C =500mA ; V _{CE} =2V	25			
f _T	Transition frequency	I _C =50mA; V _{CE} =5V ;f=100MHz		190		MHz

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PACKAGE OUTLINE

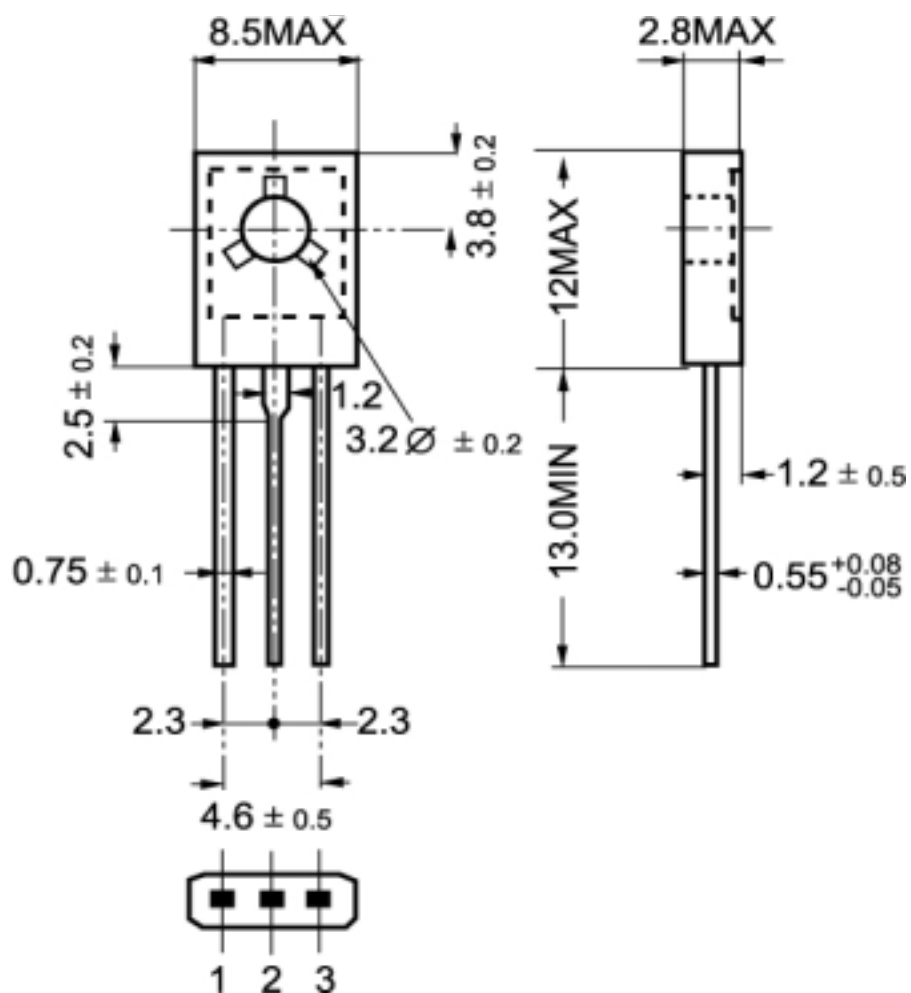


Fig.2 Outline dimensions