



## TO-126 Plastic-Encapsulated Transistors

### BD433/435/437 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$$P_{CM}: 1.25 \text{ W (Tamb=25°C)}$$

Collector current

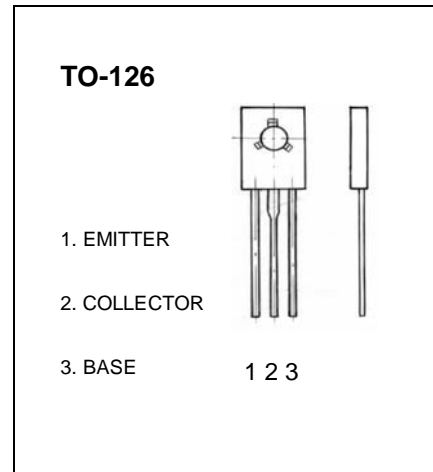
$$I_{CM}: 4 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: \begin{array}{ll} \text{BD433} & 22 \text{ V} \\ \text{BD435} & 32 \text{ V} \\ \text{BD437} & 45 \text{ V} \end{array}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^\circ\text{C to } +150^\circ\text{C}$$



#### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	BD433 $I_C=100\mu\text{A}, I_E=0$	22			V
		BD435	32			
		BD437	45			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	BD433 $I_C=100\text{mA}, I_B=0$	22			V
		BD435	32			
		BD437	45			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=22\text{V}, I_E=0$ BD433			1	$\mu\text{A}$
		$V_{CB}=32\text{V}, I_E=0$ BD435				
		$V_{CB}=45\text{V}, I_E=0$ BD437				
Collector cut-off current	$I_{CEO}$	$V_{CE}=22\text{V}, I_E=0$ BD433			10	$\mu\text{A}$
		$V_{CE}=32\text{V}, I_E=0$ BD435				
		$V_{CE}=45\text{V}, I_E=0$ BD437				
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_E=0$			1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=500\text{mA}$	85			
	$h_{FE(2)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$ BD433/BD435	40			
		BD437	30			
$h_{FE(3)}$	$V_{CE}=1\text{V}, I_C=2\text{A}$	BD433/BD435	50			
		BD437	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2\text{A}, I_B=0.2\text{A}$ BD433/BD435 BD437			0.5 0.6	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=1\text{V}, I_C=2\text{A}$ BD433/BD435 BD437			1.1 1.2	V
Transition frequency	$f_T$	$V_{CE}=1\text{V}, I_C=250\text{mA}$	3			MHz