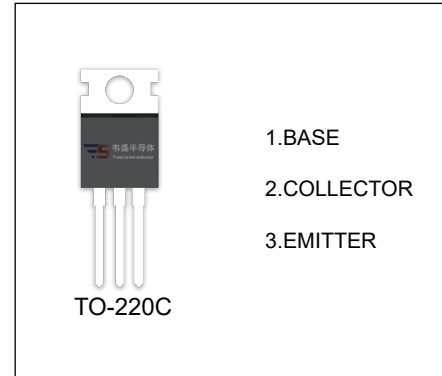


## 2SD2137A TRANSISTOR (NPN)

### FEATURES

- High DC Current Gain
- Low Collector to Emitter Saturation Voltage  $V_{CE(sat)}$
- Allowing Automatic Insertion with Radial Taping



### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	3	A
$P_C$	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	63	$^{\circ}\text{C}/\text{W}$
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=30\text{mA}, I_B=0$	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=80\text{V}, I_E=0$			100	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}=60\text{V}, I_B=0$			100	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6\text{V}, I_C=0$			100	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=4\text{V}, I_C=1\text{A}$	70		320	
	$h_{FE(2)}$	$V_{CE}=4\text{V}, I_C=3\text{A}$	10			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=0.375\text{A}$			1.2	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=4\text{V}, I_C=3\text{A}$			1.8	V
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=0.2\text{A}, f=10\text{MHz}$		30		MHz

### CLASSIFICATION OF $h_{FE(1)}$

RANK	Q	P	O
RANGE	70-150	120-250	160-320