2SD2137 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

TO-220C

FEATURES

- High Forward Current Transfer Ratio h_{FE} which Has Satisfactory Linearity
- Low Collector to Emitter Saturation Voltage $V_{CE(sat)}$
- Allowing Supply with the Radial Taping

MAXIMUM RATINGS(T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Power Dissipation	2	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage		$V_{(BR)CBO}$	I_C=0.1mA, I_E=0	60			V
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	I_C=30mA, I_B=0	60			V
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E=0.1mA, I_C=0	6			V
Collector cut-off current		I_{CBO}	V_{CB}=60V, I_E=0			100	μA
Emitter cut-off current		I_{EBO}	V_{EB}=6V, I_C=0			100	μA
DC current gain		$h_{FE(1)}$	V_{CE}=4V, I_C=1A	70		320	
		$h_{FE(2)}$	V_{CE}=4V, I_C=3A	10			
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=3A, I_B=375mA			1.2	V
Base-emitter voltage		V_{BE}	V_{CE}=4V, I_C=3A			1.8	V
Transition frequency		f_T	V_{CE}=5V, I_C=0.2A, f=10MHz		30		MHz
Switch time	Turn-on time	t_{on}	V_{CC}=50V,I_C=1A, I_{B1}=-I_{B2}=0.1A		0.3		μs
	Storage time	t_{stg}			2.5		μs
	Fall time	t_f			0.2		μs

CLASSIFICATION OF $h_{FE(1)}$

Rank	Q	P	O
Range	70-150	120-250	160-320