



TO-220 Plastic-Encapsulated Transistors

2SD2137 TRANSISTOR (NPN)

FEATURES

Power dissipation

P_{CM} : 2 W ($T_{amb}=25^{\circ}C$)

Collector current

I_{CM} : 3 A

Collector-base voltage

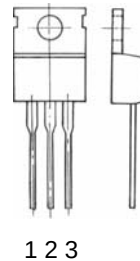
$V_{(BR)CBO}$: 60 V

Operating and storage junction temperature range

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

TO-220

1. BASE
2. COLLECTOR
3. EMITTER



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter		Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage		$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	60			V
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C=30mA, I_B=0$	60			V
Emitter-base breakdown voltage		$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	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}	$V_{CC}=50V, I_C=1A, I_{B1}=0.1A, I_{B2}=-0.1A$		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