

**TO-126 Plastic-Encapsulate Transistors****2SD2136** TRANSISTOR (NPN)**FEATURES**

Power dissipation

 P_{CM} : 1.25 W ($T_{amb}=25^{\circ}C$)

Collector current

 I_{CM} : 3 A

Collector-base voltage

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

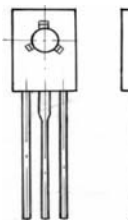
Operating and storage junction temperature range

 T_J, T_{stg} : $-55^{\circ}C$ to $+150^{\circ}C$ **TO-126**

1. EMITTER

2. COLLECTOR

3. BASE



1 2 3

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}	$V_{CB}=60V, I_E=0$			200	μA
Emitter cut-off current		I_{EBO}	$V_{EB}=6V, I_C=0$			1	mA
DC current gain		$h_{FE(1)}$	$V_{CE}=4V, I_C=1A$	40		250	
		$h_{FE(2)}$	$V_{CE}=4V, I_C=3A$	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	$V_{CE}=5V, I_C=0.1A, f=200MHz$		30		MHz
Switch Time	Turn-on time	t_{on}	$I_C=1A, I_{B1}=0.1A, I_{B2}=-0.1A$		0.5		μs
	Storage time	t_{stg}			2.5		μs
	Fall time	t_f			0.4		μs

CLASSIFICATION OF $h_{FE(1)}$

Rank	P	Q	R
Range	40-90	70-150	120-250