Elektronische Bauelemente

2SD2136

3A , 60V

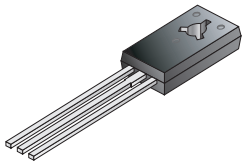
NPN Plastic Encapsulated Transistor

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

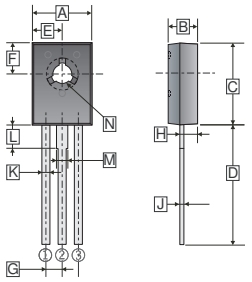
FEATURES

- Low frequency power amplifier
- Low Collector-Emitter Saturation Voltage VCE(sat)
- High Forward Current Transfer Ratio hFE Which has Satisfactory Linearity.

TO-126

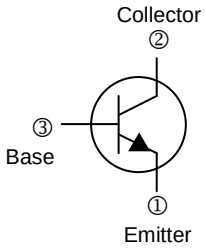


①Emitter
②Collector
③Base



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

Product-Rank	2SD2136-P	2SD2136-Q	2SD2136-R
Range	40~90	70~150	120~250



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	7.40	7.80	H	1.10	1.50
B	2.50	2.90	J	0.45	0.60
C	10.60	11.00	K	0.66	0.86
D	15.30	15.70	L	2.10	2.30
E	3.70	3.90	M	1.17	1.37
F	3.90	4.10	N	3.00	3.20
G	2.29 TYP.				

ABSOLUTE MAXIMUM RATINGS (T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	60	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current - Continuous	I_C	3	A
Collector Power Dissipation	P_C	1.25	W
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	100	℃ / W
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	℃

ELECTRICAL CHARACTERISTICS (T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	60	-	-	V	I_C=0.1mA, I_E=0
Collector to Emitter Breakdown Voltage [1]	$V_{(BR)CEO}$	60	-	-	V	I_C=30mA, I_B=0
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	6	-	-	V	I_E=0.1mA, I_C=0
Collector Cut – Off Current	I_{CBO}	-	-	200	μA	V_{CB}=60V, I_E=0
Collector Cut – Off Current	I_{CEO}	-	-	300	μA	V_{CE}=60V, I_B=0
Emitter Cut – Off Current	I_{EBO}	-	-	1	mA	V_{EB}=6V, I_C=0
DC Current Gain [1]	$h_{FE\ (1)}$	40	-	250		V_{CE}=4V, I_C=1A
	$h_{FE\ (2)}$	10	-	-		V_{CE}=4V, I_C=3A
Collector to Emitter Saturation Voltage [1]	$V_{CE(sat)}$	-	-	1.2	V	I_C=3A, I_B=375mA
Collector Output Capacitance [1]	V_{BE}	-	-	1.8	V	V_{CE}=4V, I_C=3A
Transition Frequency	f_T	-	30	-	MHz	V_{CE}=5V, I_C=100mA, f=10MHz

Note:
1. Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

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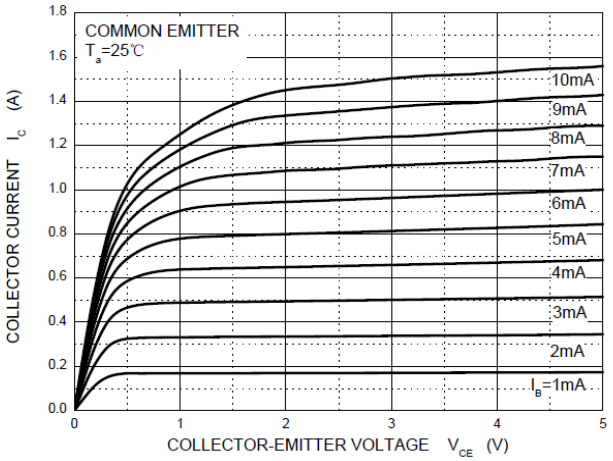
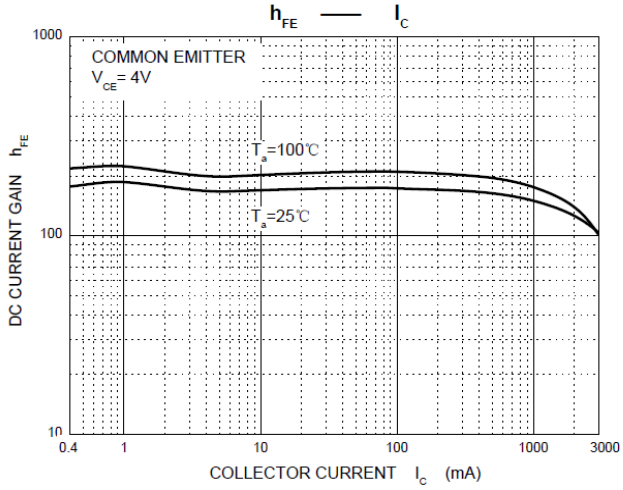
RATINGS AND CHARACTERISTIC CURVES

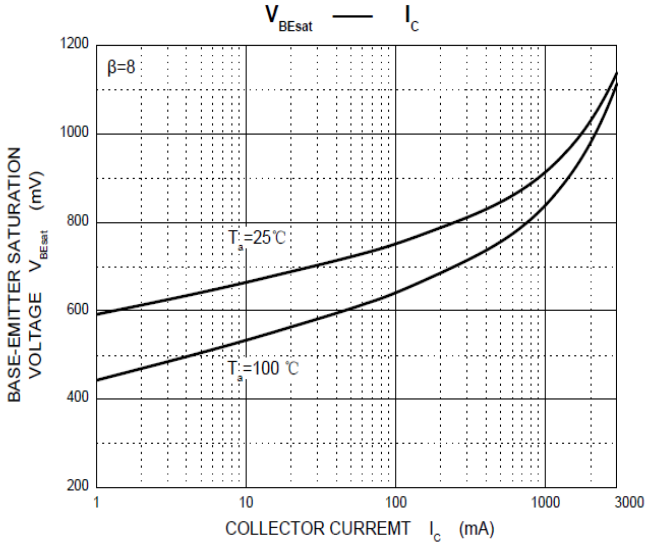
Static Characteristic



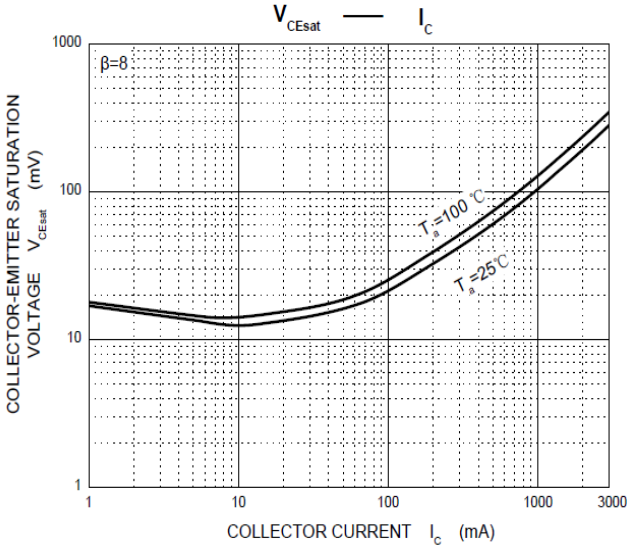
hFE —— IC



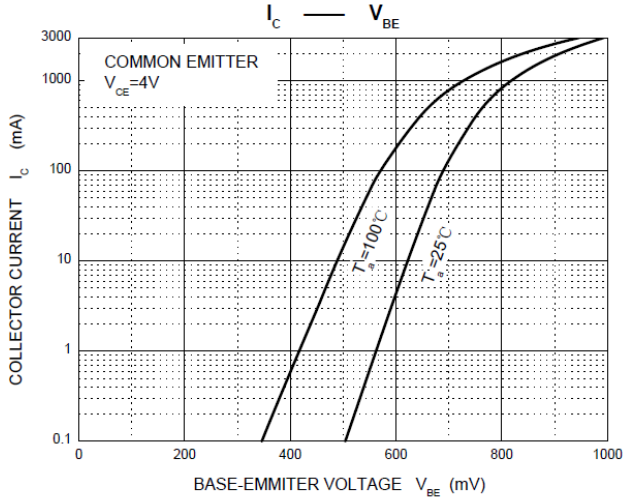
VBEsat —— IC



VCEsat —— IC



IC —— VBE



PC —— Ta