

UTC2SD2136 NPN EPITAXIAL SILICON TRANSISTOR

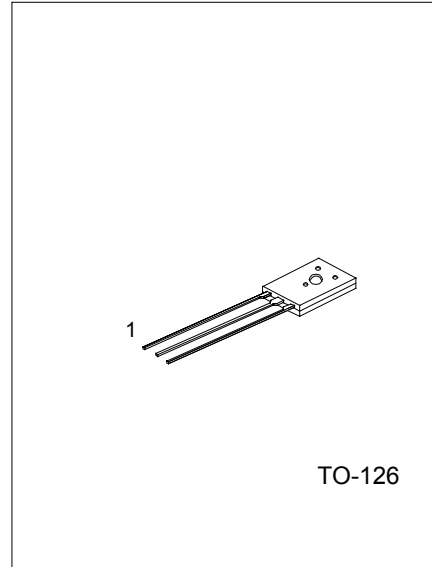
POWER TRANSISTOR

DESCRIPTION

The UTC 2SD2136 is designed for power amplification

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.



1: BASE 2:COLLECTOR 3: EMITTER

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_c	3	A
Peak Collector Current	I_{cp}	5	A
Collector Dissipation	P_c	1.5	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-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-Emitter Voltage	V_{CEO}	$I_c=30\text{mA}, I_b=0$	60			V
Collector Cut-off Current	I_{CEO}	$V_{CE}=60\text{V}, I_b=0$			300	μA
Collector Cut-off Current	I_{CES}	$V_{CE}=60\text{V}, V_{BE}=0$			200	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=6\text{V}, I_c=0$			1	mA
DC Current Transfer Ratio	h_{FE1^*}	$V_{CE}=4\text{V}, I_c=1\text{A}$	40		250	
	h_{FE2}	$V_{CE}=4\text{V}, I_c=3\text{A}$	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	$V_{CE}=5\text{V}, I_E=-0.1\text{A}, f=200\text{MHz}$		220		MHz
Fall time	t_f	$I_c=1\text{A}, I_{B1}=0.1\text{A}, I_{B2}=-0.1\text{A}$		0.4		μS
Turn on time	t_{on}			0.5		μS
Storage Time	t_{stg}			2.5		μS

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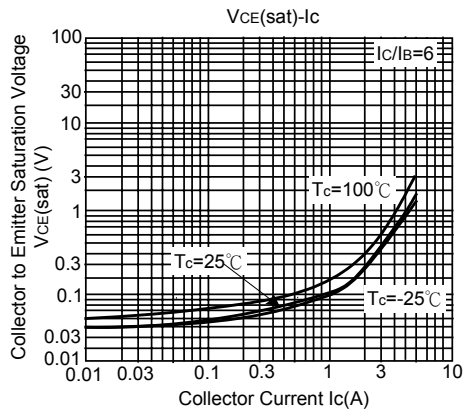
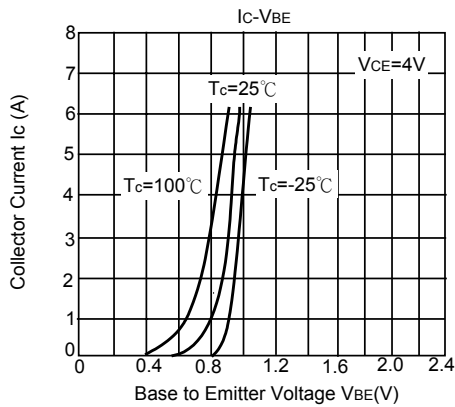
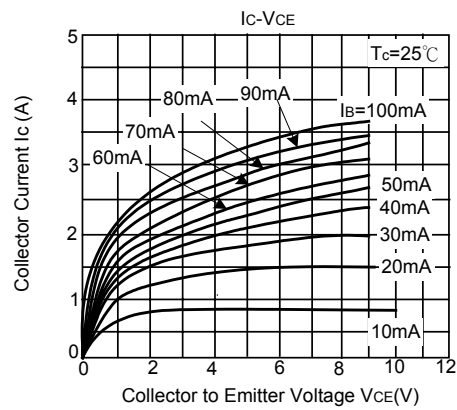
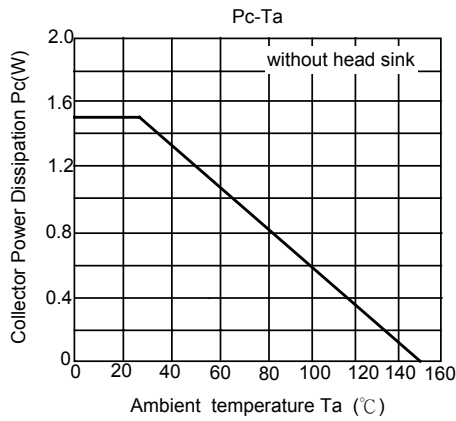
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CLASSIFICATION OF hFE1

RANK	Q	P	R
RANGE	70-150	40-90	120-250

ELECTRICAL CHARACTERISTICS CURVES



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