



**2SD2136**

**NPN SILICON TRANSISTOR**

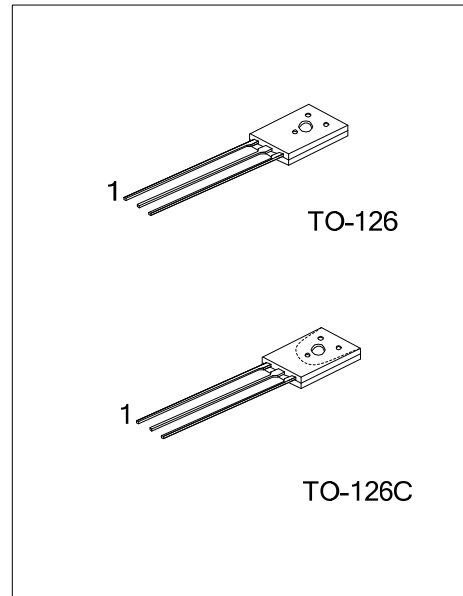
**POWER TRANSISTOR**

■ 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.



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SD2136L-x-T60-K	2SD2136G-x-T60-K	TO-126	B	C	E	Bulk
2SD2136L-x-T6C-K	2SD2136G-x-T6C-K	TO-126C	B	C	E	Bulk

<p>2SD2136L-x-T60-K</p>	<p>(1) Packing Type (2) Package Type (3) Rank (4) Lead Free</p> <p>(1) K: Bulk (2) T60: TO-126, T6C: TO-126C (3) x: Refer to Classification of <math>h_{FE1}</math> (4) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified )

PARAMETER	SYMBOL	RATINGS	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	°C
Storage Temperature	$T_{STG}$	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

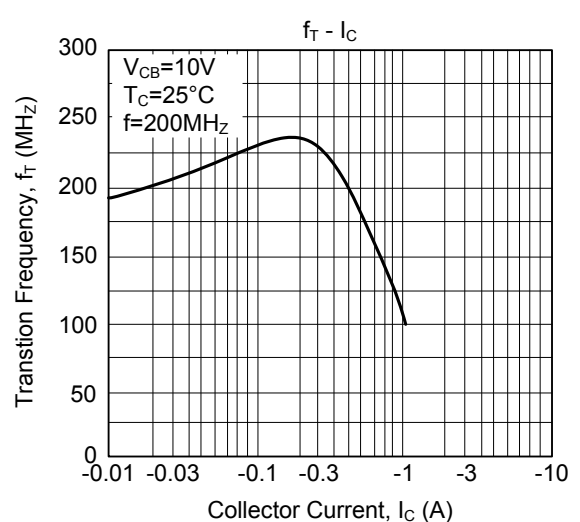
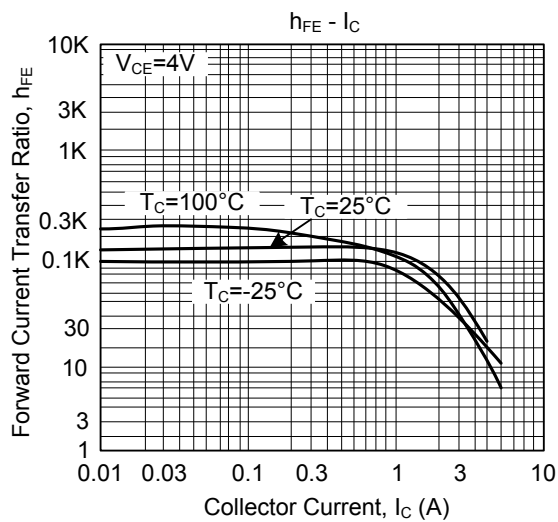
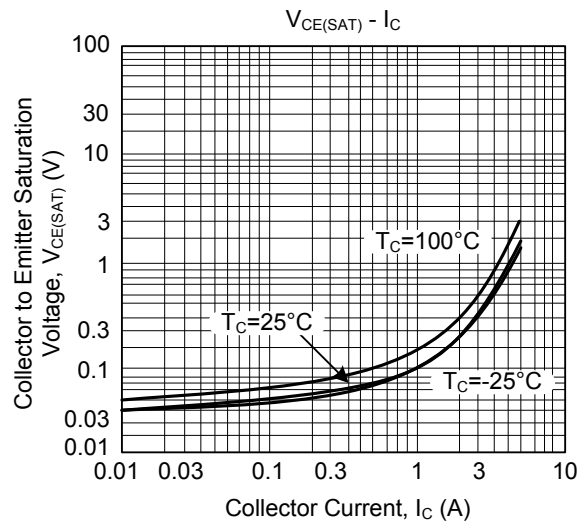
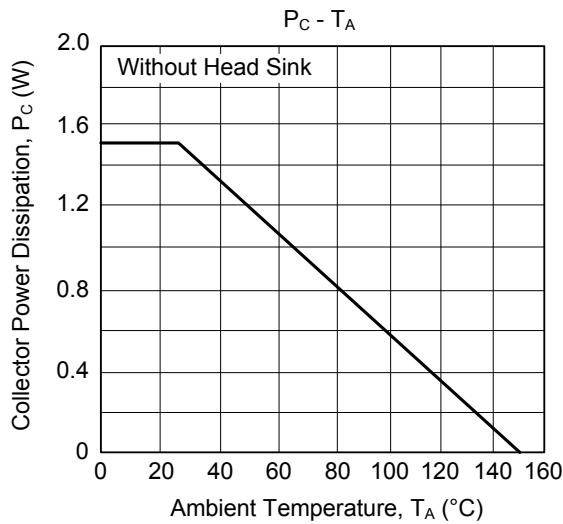
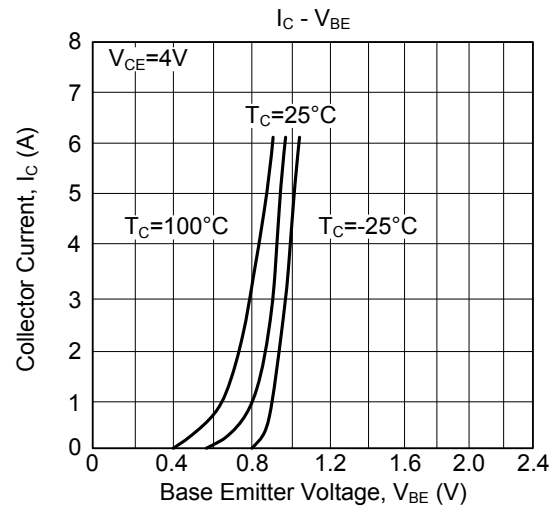
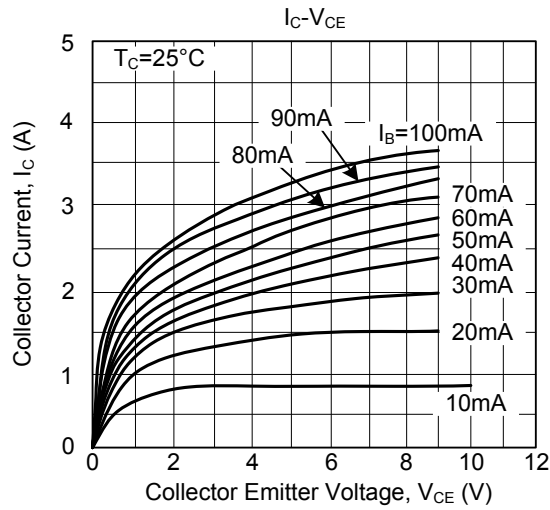
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CEO}$	$I_C=30mA, I_B=0$	60			V
Collect Cutoff Current	$I_{CEO}$	$V_{CE}=60V, I_B=0$			300	$\mu A$
Collect Cutoff Current	$I_{CES}$	$V_{CE}=60V, V_{BE}=0$			200	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{BE}=6V, I_C=0$			1	mA
DC Current Gain	$h_{FE1}$	$V_{CE}=4V, I_C=1A$	40		250	
	$h_{FE2}$	$V_{CE}=4V, I_C=3A$	10			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=3A, I_B=0.375A$			1.2	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=4V, I_C=3A$			1.8	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=15V, I_E=0.1A, f=200MHz$		220		MHz
Turn On Time	$t_{ON}$	$I_C=1A, I_{B1}=0.1A, I_{B2}=0.1A$		0.5		$\mu S$
Storage Time	$t_S$			2.5		$\mu S$
Fall Time	$t_F$			0.4		$\mu S$

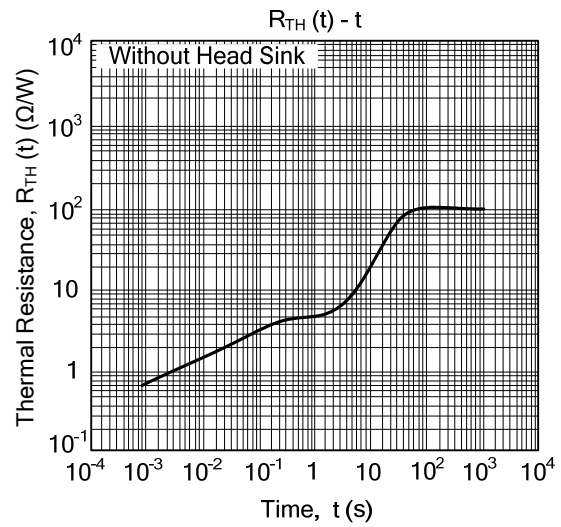
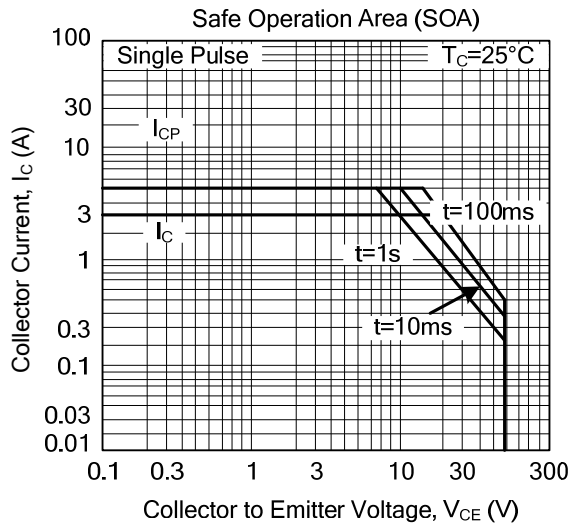
■ CLASSIFICATION OF  $h_{FE1}$

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

## TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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