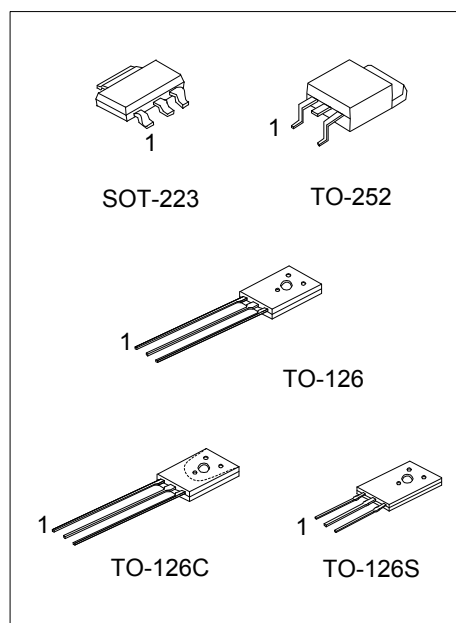


**2SD2136****NPN SILICON TRANSISTOR****POWER TRANSISTOR****DESCRIPTION**

The UTC **2SD2136** is designed for power application.

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-AA3-R	2SD2136G-x-AA3-R	SOT-223	B	C	E	Tape Reel
2SD2136L-x-TN3-R	2SD2136G-x-TN3-R	TO-252	B	C	E	Tape Reel
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
2SD2136L-x-T6S-K	2SD2136G-x-T6S-K	TO-126S	B	C	E	Bulk

Note: Pin assignment: B: Base C: Collector E: Emitter

2SD2136G-x-AA3-R (1) Packing Type (2) Package Type (3) Rank (4) Green Package	(1) R: Tape Reel, K: Bulk (2) AA3: SOT-223, TN3: TO-252, T60: TO-126, T6C: TO-126C, T6S: TO-126S (3) x: Refer to Classification of h_{FE1} (4) G: Halogen Free and Lead Free, L: Lead Free
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2SD2136

NPN SILICON TRANSISTOR

MARKING

PACKAGE	MARKING
SOT-223	2SD2136□ □□□□ 1 L: Lead Free G: Halogen Free Date Code
TO-252	UTC 2SD2136□ □□□□□□ 1 Lot Code L: Lead Free G: Halogen Free Date Code
TO-126 TO-126C TO-126S	UTC □□□□ 2SD2136□ 1 Date Code L: Lead Free G: Halogen Free

■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^\circ\text{C}$, 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	SOT-223	P_C	1	W
	TO-252		1.9	W
	TO-126/TO-126C		1.5	W
	TO-126S			
Junction Temperature		T_J	150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ\text{C}$

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.

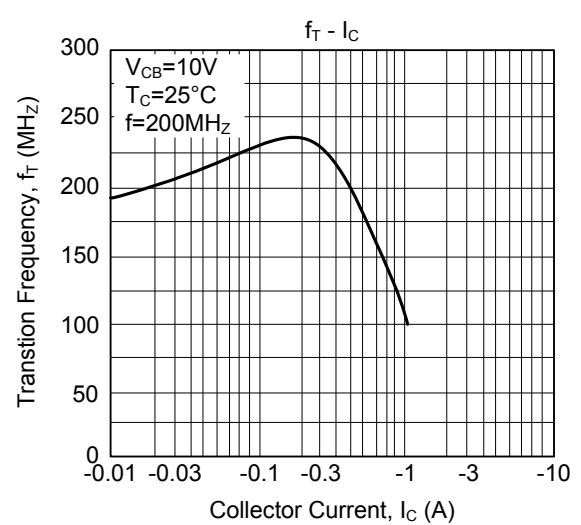
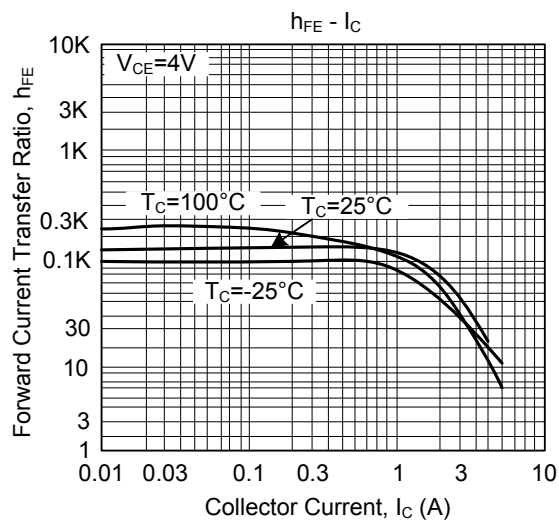
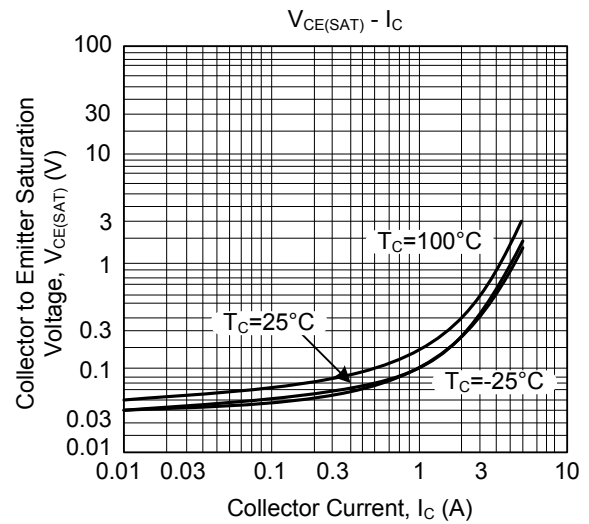
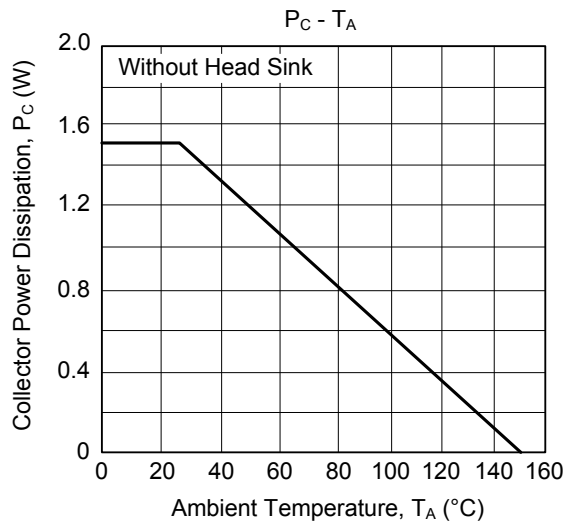
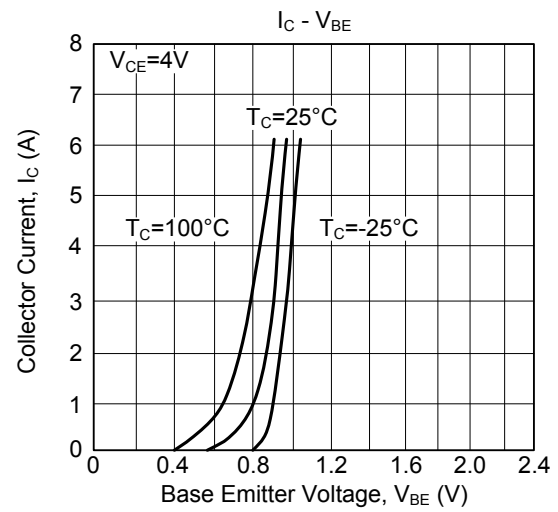
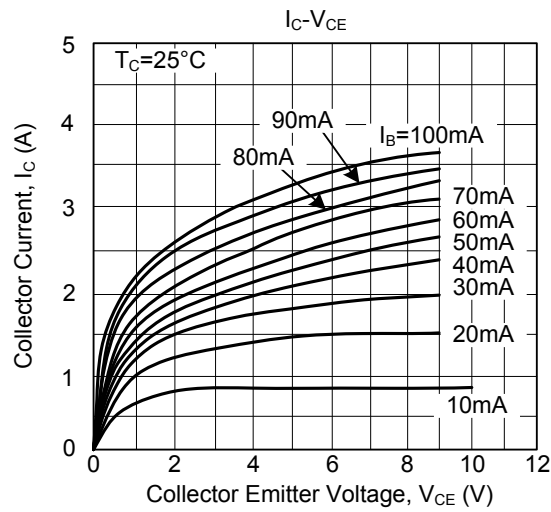
■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CEO}	$I_C=30\text{mA}$, $I_B=0$	60			V
Collect Cutoff Current	I_{CEO}	$V_{CE}=60\text{V}$, $I_B=0$			300	μA
Collect Cutoff Current	I_{CES}	$V_{CE}=60\text{V}$, $V_{BE}=0$			200	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=6\text{V}$, $I_C=0$			1	mA
DC Current Gain	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
Current Gain Bandwidth Product	f_T	$V_{CE}=15\text{V}$, $I_E=0.1\text{A}$, $f=200\text{MHz}$		220		MHz
Rise Time	t_R	$I_C=0.5\text{A}$, $I_B=10\text{mA}$		0.08		μs
Storage Time	t_S			1.8		μs
Fall Time	t_F			0.2		μs

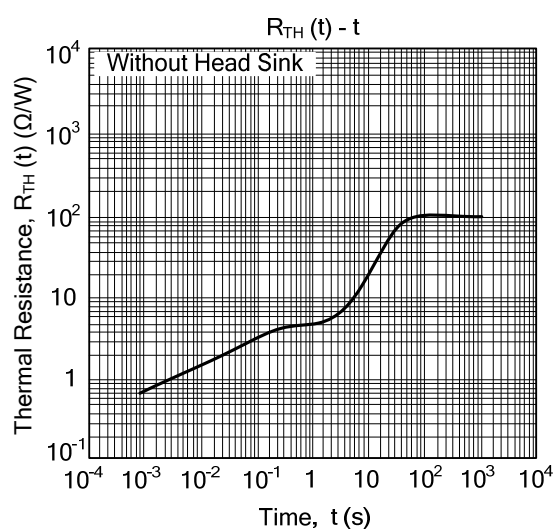
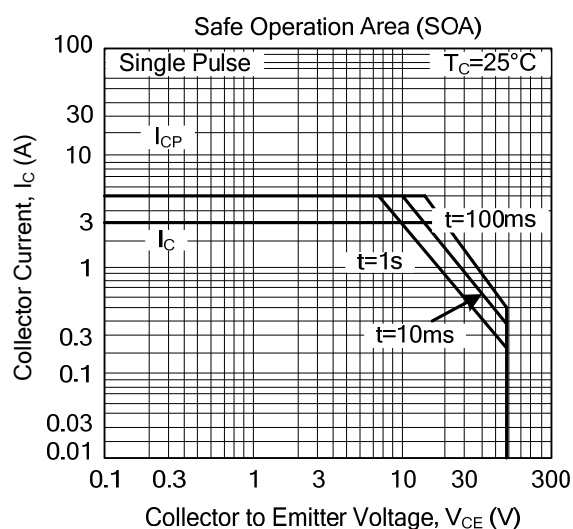
■ **CLASSIFICATION OF h_{FE1}**

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

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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