



## 2SD1609

## NPN SILICON TRANSISTOR

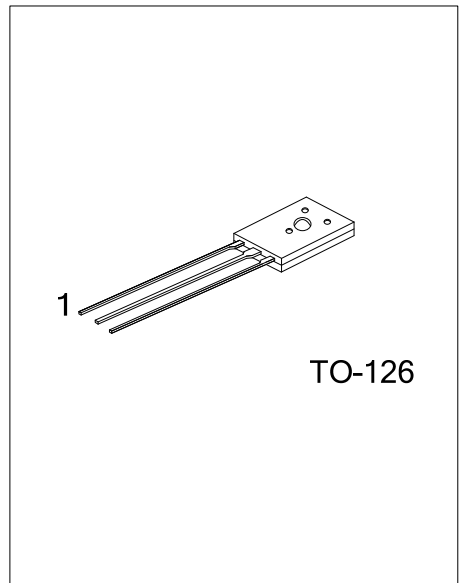
### NPN TRANSISTOR

#### DESCRIPTION

The UTC **2SD1609** are series of NPN silicon planar transistor, and its suited to be used in power amplifier applications.

#### FEATURES

\* Suit for power amplifier applications



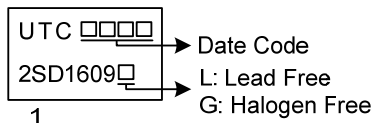
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SD1609L-T60-K	2SD1609G-T60-K	TO-126	B	C	E	Bulk
2SD1609L-T60-T	2SD1609G-T60-T	TO-126	B	C	E	Tube

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

<p>2SD1609G-T60-K</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) K: Bulk, T: Tube</li> <li>(2) T60: TO-126</li> <li>(3) G: Halogen Free and Lead Free, L: Lead Free</li> </ul>
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#### MARKING



■ ABSOLUTE MAXIMUM RATING ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$BV_{CBO}$	160	V
Collector-emitter voltage	$BV_{CEO}$	160	V
Emitter-Base Voltage	$BV_{EBO}$	5	V
Collector Current	$I_C$	100	mA
Collector Dissipation	$P_C$	1.25	W
Junction Temperature	$T_J$	+150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-50 ~ +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.

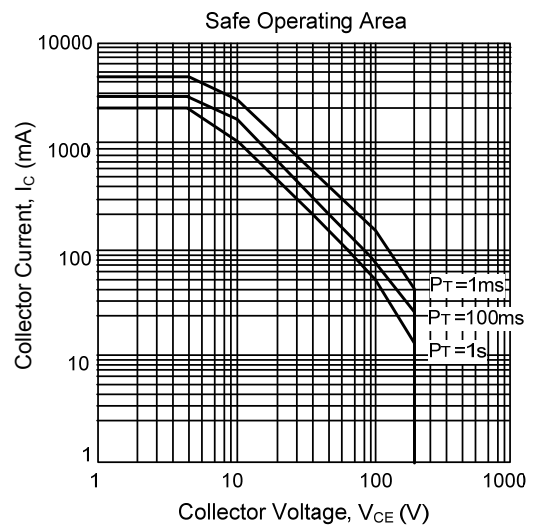
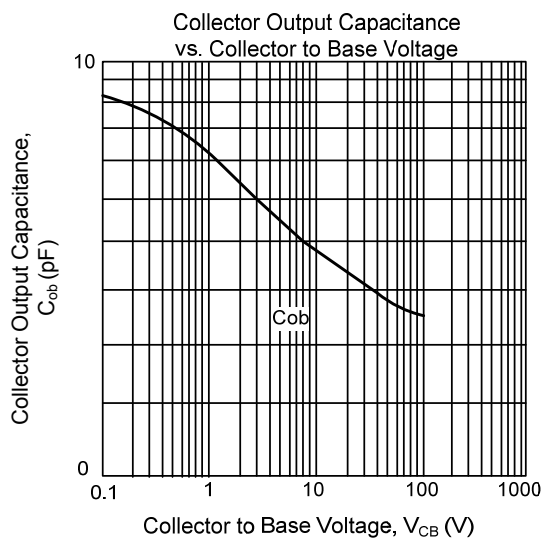
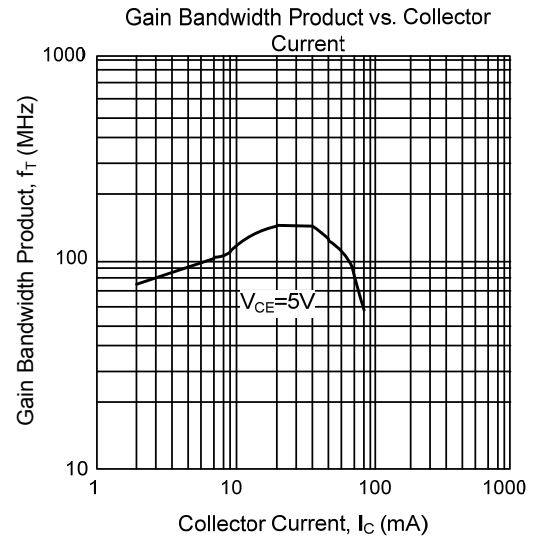
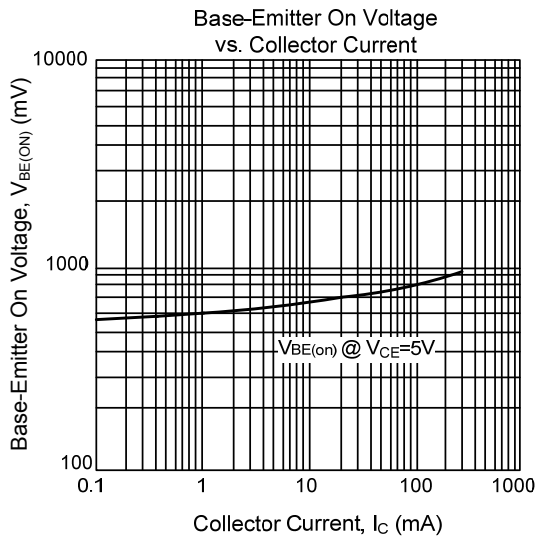
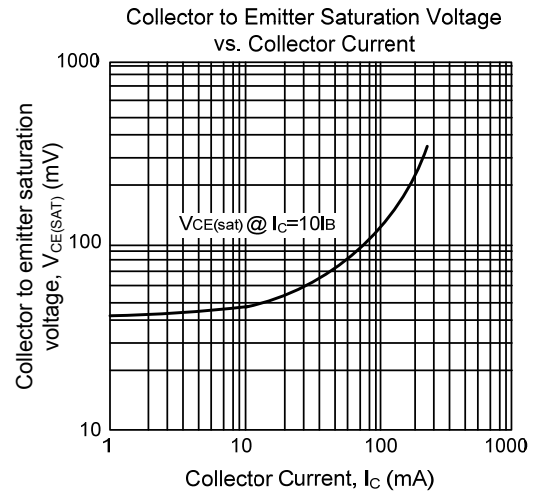
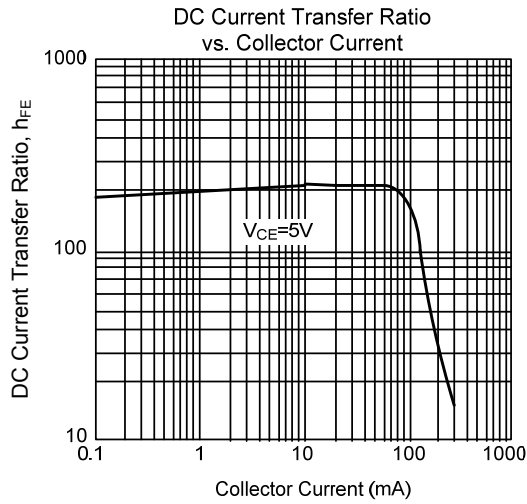
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=10\mu\text{A}$ , $I_E=0\text{A}$	160			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1\text{mA}$ , $I_B=0\text{A}$	160			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=10\mu\text{A}$ , $I_C=0\text{A}$	5			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=140\text{V}$ , $I_E=0\text{A}$			10	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$I_C=10\text{mA}$ , $V_{CE}=5\text{V}$	60		320	
	$h_{FE2}$	$I_C=1\text{mA}$ , $V_{CE}=5\text{V}$	30			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=30\text{mA}$ , $I_B=3\text{mA}$			2	V
Base-Emitter On Voltage	$V_{BE(ON)}$	$I_C=10\text{mA}$ , $V_{CE}=5\text{V}$			1.5	V
Current Gain Bandwidth Product	$f_T$	$I_C=10\text{mA}$ , $V_{CE}=5\text{V}$	145			MHz
Output Capacitance	$C_{OB}$	$V_{CB}=10\text{V}$ , $f=1\text{MHz}$		3.8		pF

■ CLASSIFICATION OF  $h_{FE1}$

RANK	B	C	D
RANGE	60 ~ 120	100 ~ 200	160 ~ 320

## TYPICAL CHARACTERISTICS



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