2SD1609

NPN SILICON TRANSISTOR

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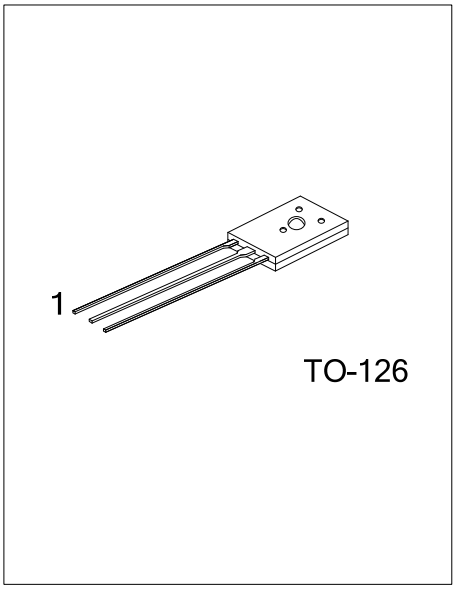


■ DESCRIPTION

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

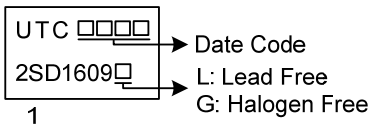
■ ORDERING INFORMATION

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

2SD1609G-T60-K (1)Packing Type (2)Package Type (3)Green Package	(1) K: Bulk, T: Tube (2) T60: TO-126 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	B_{VCBO}	160	V
Collector-emitter voltage	B_{VCEO}	160	V
Emitter-Base Voltage	B_{VEBO}	5	V
Collector Current	I_C	100	mA
Collector Dissipation	P_C	1.25	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-50 ~ +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 (T_A=25°C, unless otherwise specified)

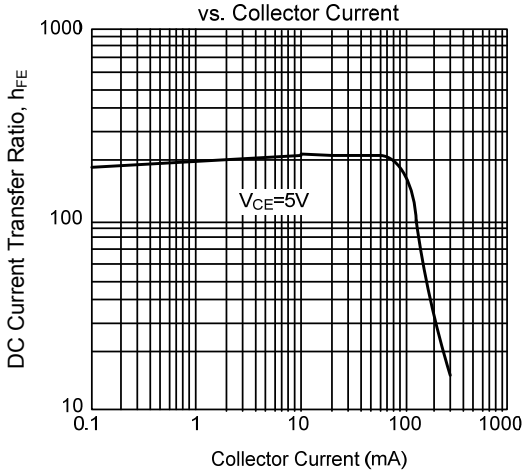
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=10μA, I_E=0A	160			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0A	160			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=10μA, I_C=0A	5			V
Collector Cutoff Current	I_{CBO}	V_{CB}=140V, I_E=0A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

■ CLASSIFICATION OF h_{FE1}

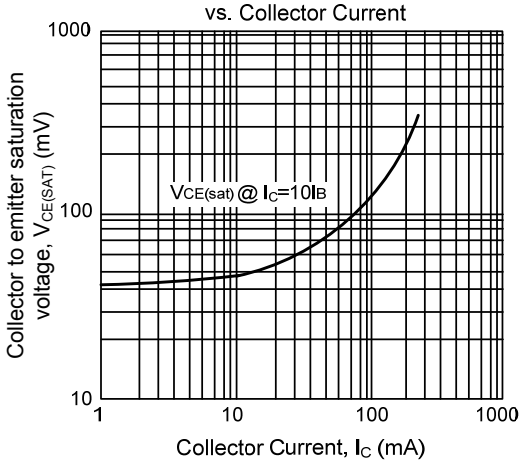
RANK	B	C	D
RANGE	60 ~ 120	100 ~ 200	160 ~ 320

■ TYPICAL CHARACTERISTICS

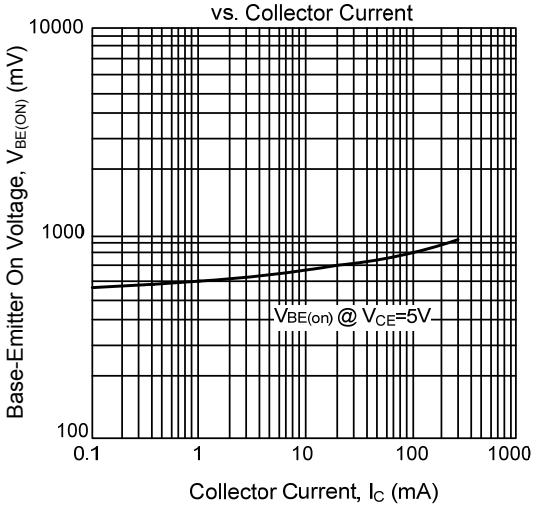
DC Current Transfer Ratio vs. Collector Current



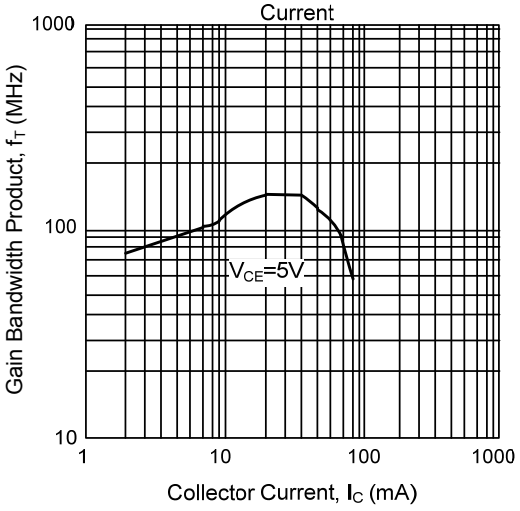
Collector to Emitter Saturation Voltage vs. Collector Current



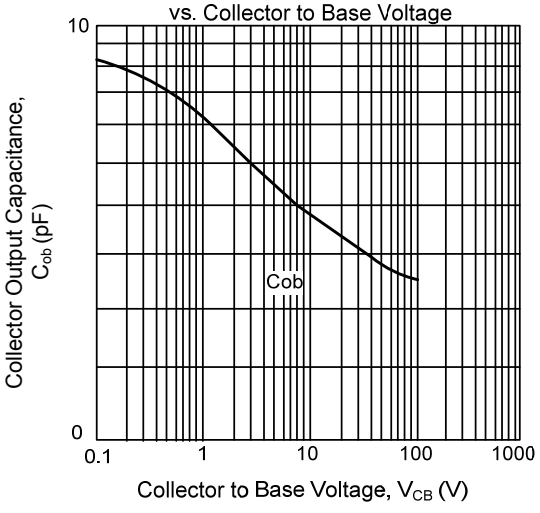
Base-Emitter On Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage



Safe Operating Area