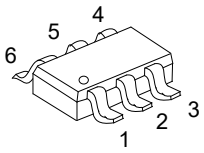
USS4160DPN

DUAL TRANSISTOR

COMPLEMENTARY NPN/PNP TRANSISTOR



SOT-26

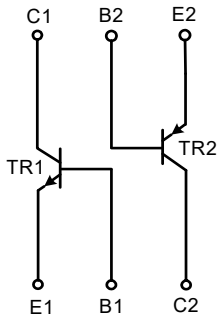
■ DESCRIPTION

The UTC **USS4160DPN** is an NPN and a PNP bipolar junction transistor (BJT). it uses UTC's advanced technology to provide the customers with low collector -emitter saturation voltage, etc.

■ FEATURES

* NPN/PNP silicon transistor
* Ideal for Low Power Amplification and Switching
* Low collector-emitter saturation voltage
* High DC current Gain
* Simplify circuit design
* Epitaxial Planar Die Construction

■ EQUIVALENT CIRCUIT



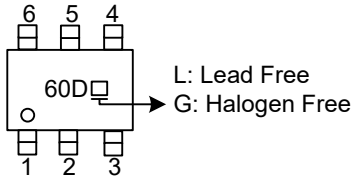
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
USS4160DPNL-AG6-R	USS4160DPNG-AG6-R	SOT-26	E1	B1	C2	E2	B2	C1	Tape Reel

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

USS4160DPNG-AG6-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AG6: SOT-26 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



Copyright © 2026 Unisonic Technologies Co., Ltd

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

PARAMETER	SYMBOL	RATINGS		UNIT
		TR1 (NPN)	TR2 (PNP)	
Collector-Base Voltage	V_{CBO}	80	-80	V
Collector-Emitter Voltage	V_{CEO}	60	-60	V
Emitter-Base Voltage	V_{EBO}	5	-5	V
Collector Current	I_C	1	-1	A
Power Dissipation	P_C	290		mW
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.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	431	°C/W

Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

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

TR1 (NPN)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, I_E=0	80			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0	60			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA, I_C=0	5			V
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=60V, I_E=0			100	nA
Collector-Emitter Cut-off Current	I_{CES}	V_{CE}=60V, V_{BE}=0			100	nA
Emitter-Base Cut-off Current	I_{EBO}	V_{EB}=5V, I_C=0			100	nA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=1A, I_B=50mA			1.1	V
Base-Emitter Turn-On Voltage	V_{BEON}	V_{CE}=5V, I_C=1A			0.9	V
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=1mA	250			
		V_{CE}=5V, I_C=500mA	200			
		V_{CE}=5V, I_C=1A	100			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=100mA,I_B=1mA			110	mV
		I_C=500mA,I_B=50mA			140	mV
		I_C=1A,I_B=100mA			250	mV

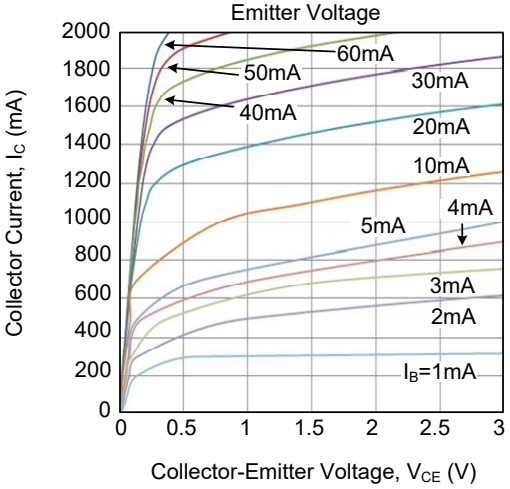
TR2 (PNP)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-100μA, I_E=0	-80			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-1mA, I_B=0	-60			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-100μA, I_C=0	-5			V
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=-60V, I_E=0			-100	nA
Collector-Emitter Cut-off Current	I_{CES}	V_{CE}=-60V, V_{BE}=0			-100	nA
Emitter-Base Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0			-100	nA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=-1A, I_B=-50mA			-1.1	V
Base-Emitter Turn-On Voltage	V_{BEON}	V_{CE}=-5V, I_C=-1A			-0.9	V
DC Current Gain	h_{FE}	V_{CE}=-5V, I_C=-1mA	200			
		V_{CE}=-5V, I_C=-500mA	150			
		V_{CE}=-5V, I_C=-1A	100			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=-100mA,I_B=-1mA			-165	mV
		I_C=-500mA,I_B=-50mA			-175	mV
		I_C=-1A,I_B=-100mA			-330	mV

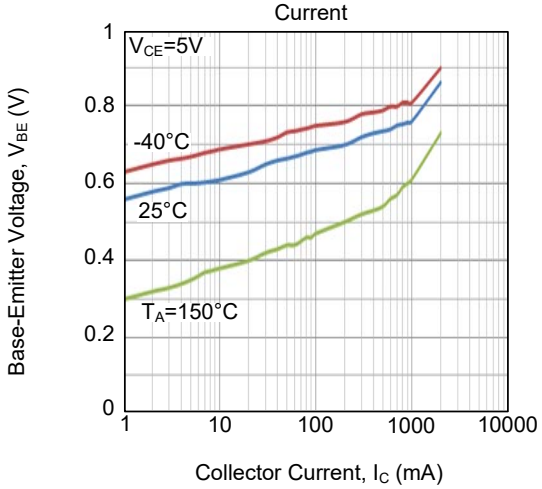
■ TYPICAL CHARACTERISTICS

TR1 (NPN)

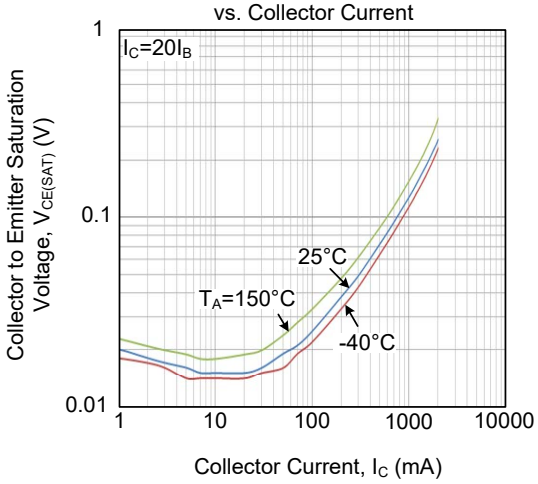
Collector Current vs. Collector-Emitter Voltage



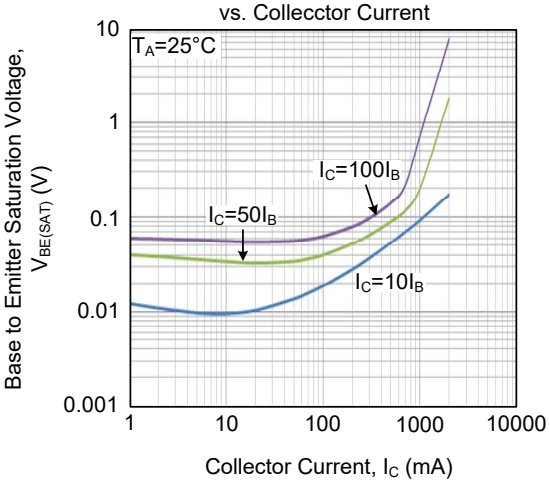
Base-Emitter Voltage vs. Collector Current



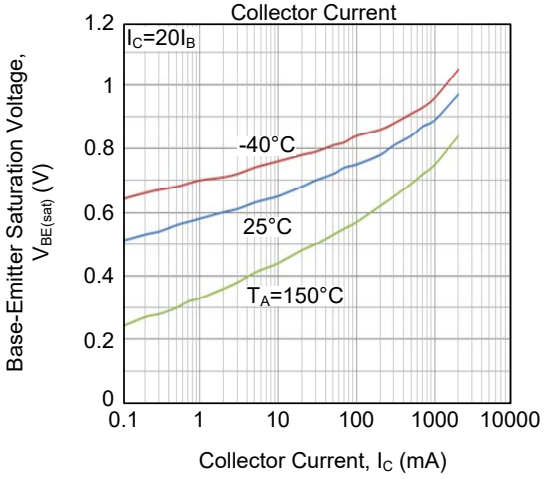
Collector-Emitter Saturation Voltage vs. Collector Current



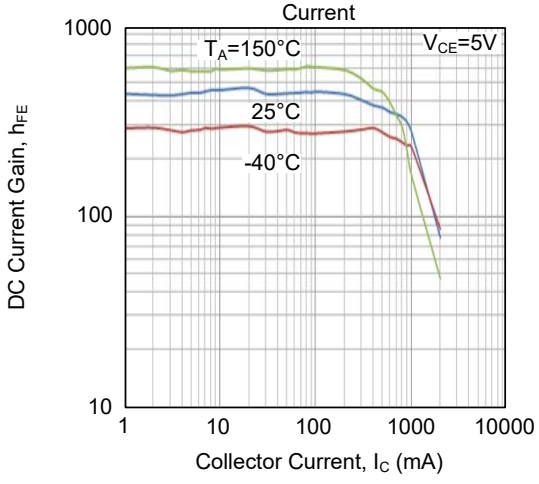
Collector-Emitter Saturation Voltage vs. Collecctor Current



Base-Emitter Saturation Voltage vs. Collector Current



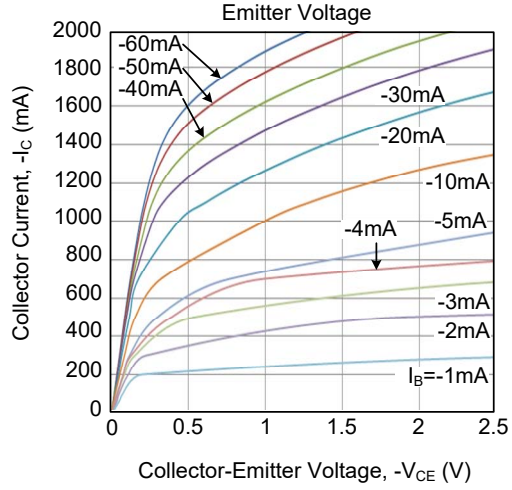
DC Current Gain vs. Collector Current



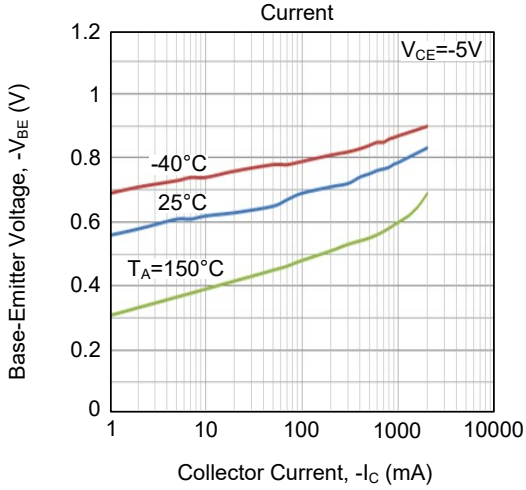
■ TYPICAL CHARACTERISTICS

TR2 (PNP)

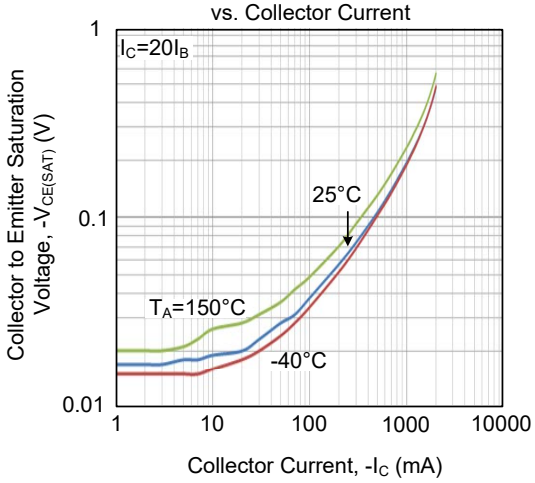
Collector Current vs. Collector-Emitter Voltage



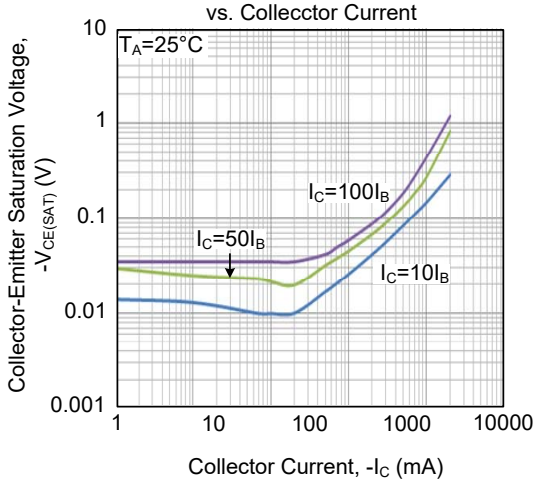
Base-Emitter Voltage vs. Collector Current



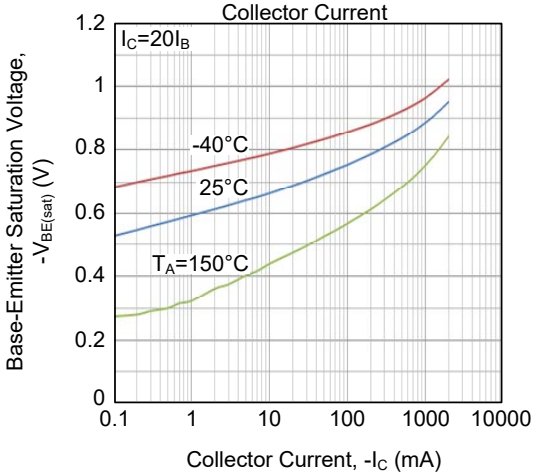
Collector-Emitter Saturation Voltage vs. Collector Current



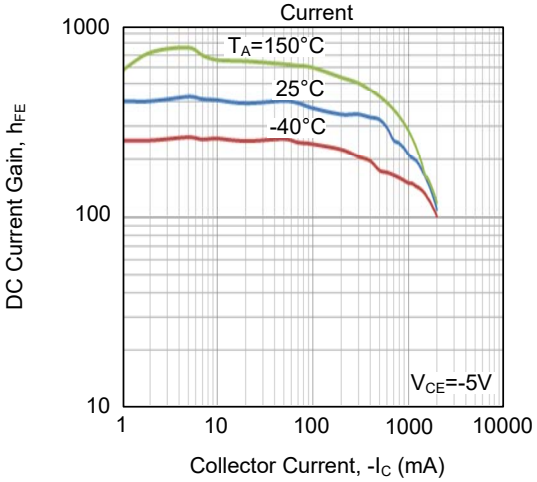
Collector-Emitter Saturation Voltage vs. Collecctor Current



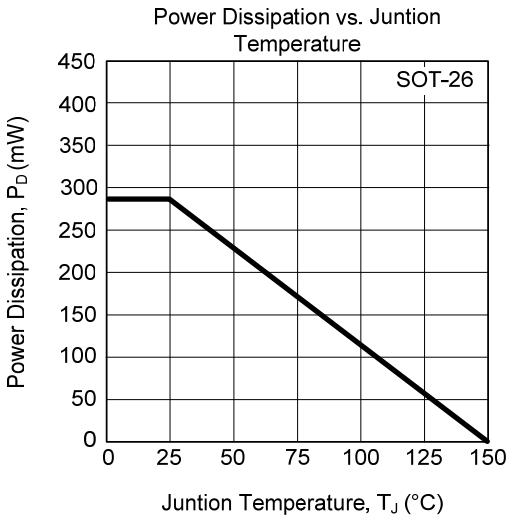
Base-Emitter Saturation Voltage vs. Collector Current



DC Current Gain vs. Collector Current



■ TYPICAL CHARACTERISTICS (Cont.)



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.