



## UFS540

## NPN SILICON TRANSISTOR

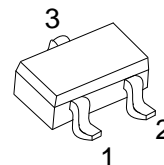
### NPN 9GHz WIDEBAND TRANSISTOR

#### DESCRIPTION

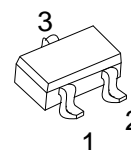
The UTC **UFS540** are NPN silicon planar transistor, It is intended for RF wideband amplifier applications such as satellite TV systems and RF portable communication equipment with signal frequencies up to 2 GHz.

#### FEATURES

- \* High power gain
- \* Low noise figure
- \* High transition frequency
- \* Gold metallization ensures excellent reliability



SOT-23  
(JEDEC TO-236)



SOT-323

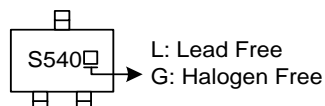
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UFS540L-AE3-R	UFS540G-AE3-R	SOT-23	B	E	C	Tape Reel
UFS540L-AL3-R	UFS540G-AL3-R	SOT-323	B	E	C	Tape Reel

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

<p>UFS540G-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



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

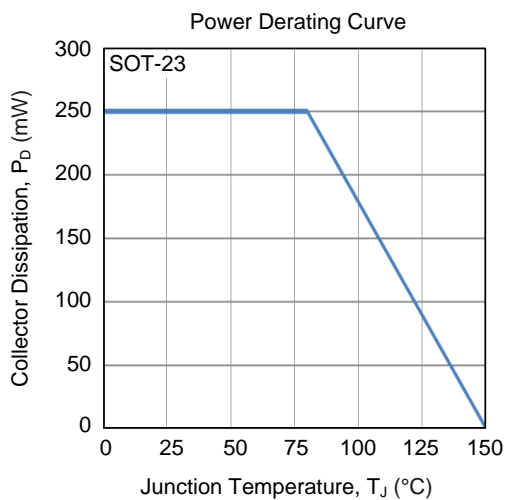
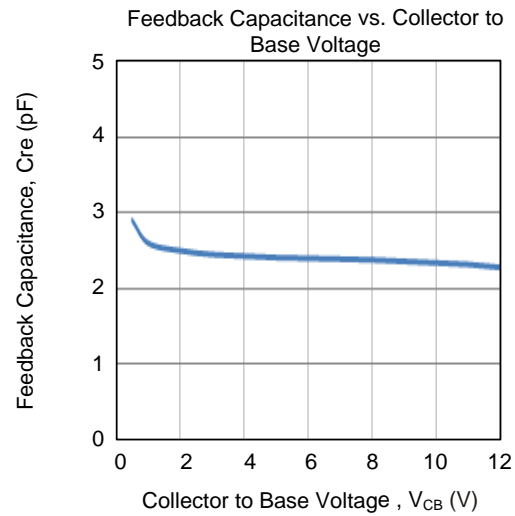
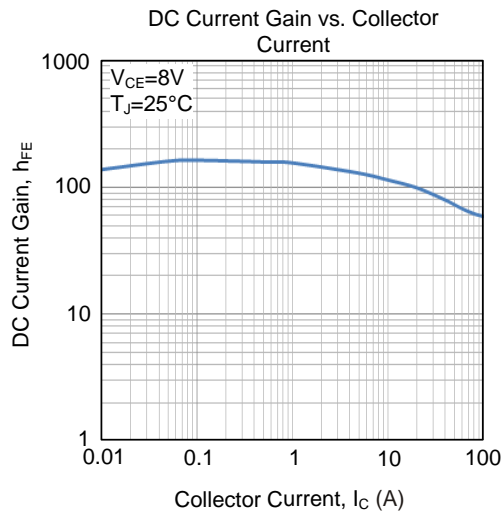
PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$BV_{CBO}$	20	V
Collector-emitter voltage		$BV_{CEO}$	14	V
Emitter-Base Voltage		$BV_{EBO}$	2.5	V
Collector Current		$I_C$	120	mA
Collector Dissipation	SOT-23	$P_C$	250	mW
	SOT-323		200	mW
Junction Temperature		$T_J$	+150	$^{\circ}\text{C}$
Storage 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** ( $T_J=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	Open Emitter			20	V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$R_{BE}=0$			14	V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	Open Collector			2.5	V
DC Collector Current	$I_C$				120	mA
Collector Cut-off Current	$I_{CBO}$	$I_C=40\text{mA}$ , $V_{CE}=8\text{V}$			50	nA
DC Current Gain	$h_{FE}$	$I_C=40\text{mA}$ , $V_{CE}=8\text{V}$	60	120	250	
Emitter Capacitance	$C_e$	$I_C=i_C=0$ , $V_{EB}=0.5\text{V}$ , $f=1\text{MHz}$		2.8		pF
Collector Capacitance	$C_c$	$I_E=i_E=0$ , $V_{CB}=8\text{V}$ , $f=1\text{MHz}$		3.4		pF
Feedback Capacitance	$C_{re}$	$I_C=0$ , $V_{CB}=8\text{V}$ , $f=1\text{MHz}$		2.4		pF
Transition Frequency	$f_T$	$I_C=40\text{mA}$ , $V_{CE}=8\text{V}$ , $f=1\text{GHz}$ , $T_A=25^{\circ}\text{C}$		9		GHz

### ■ TYPICAL CHARACTERISTICS



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