



## UFU520Y

## DUAL TRANSISTOR

### DUAL NPN WIDEBAND SILICON RF TRANSISTOR

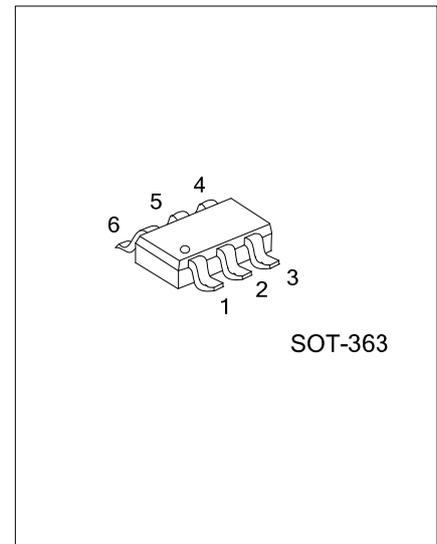
#### DESCRIPTION

The UTC **UFU520Y** are Dual NPN silicon RF transistor for high speed, low noise applications in a plastic.

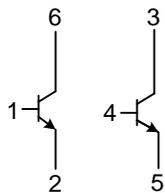
The UTC **UFU520Y** suitable for small signal to medium power applications up to 2 GHz.

#### FEATURES

- \* Low noise, high breakdown RF transistor
- \* Minimum noise figure (NFmin) = 0.65dB at 900 MHz
- \* Maximum stable gain 19dB at 900 MHz
- \* 11GHz  $f_T$  silicon technology



#### EQUIVALENT CIRCUIT



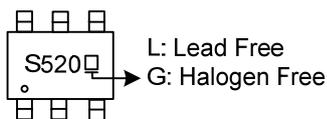
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
UFU520YL-AL3-R	UFU520YG-AL3-R	SOT-323	B1	E1	C2	B2	E2	C1	Tape Reel

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

<p>UFU520YG-AL3-R</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) R: Tape Reel</li> <li>(2) AL3: SOT-323</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	$BV_{CBO}$	24	V
Collector-emitter voltage	$BV_{CEO}$	12	V
Emitter-Base Voltage	$BV_{EBO}$	24	V
Collector Current	$I_C$	30	mA
Collector Dissipation	$P_C$	450	mW
Junction Temperature	$T_J$	+150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-50 ~ +150	$^\circ\text{C}$

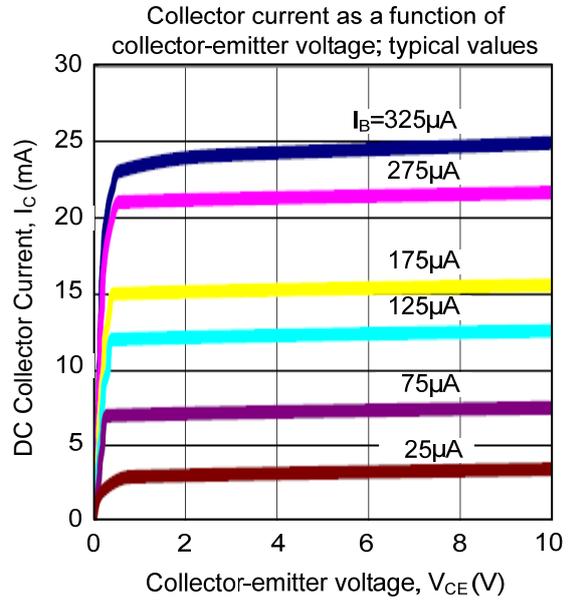
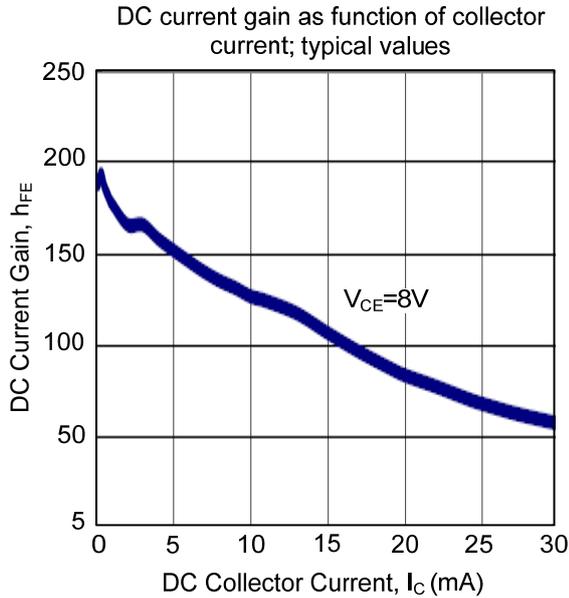
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	Open Emitter $I_C=100\text{nA}$ , $I_E=0\text{mA}$			24	V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	Open Base $I_C=150\text{nA}$ , $I_E=0\text{mA}$			12	V
		Shorted Base			24	
Emitter-Base Breakdown Voltage	$BV_{EBO}$	Open Collector			2	V
DC Collector Current	$I_C$			5	30	mA
Collector Cut-off Current	$I_{CBO}$	$I_C=0\text{mA}$ , $V_{CB}=8\text{V}$		<1		nA
DC Current Gain	$h_{FE}$	$I_C=5\text{mA}$ , $V_{CE}=8\text{V}$	60	95	200	
Collector Capacitance	$C_c$	$V_{CB}=8\text{V}$ , $f=1\text{MHz}$		0.30		pF
Emitter Capacitance	$C_e$	$V_{EB}=0.5\text{V}$ , $f=1\text{MHz}$		0.64		pF
Feedback Capacitance	$C_{re}$	$V_{EB}=8\text{V}$ , $f=1\text{MHz}$		0.48		pF
Transition Frequency	$f_T$	$I_C=10\text{mA}$ , $V_{CE}=8\text{V}$ , $f=900\text{MHz}$		10		GHz

Note: If  $K > 1$  then  $G_{P\_MAX}$  is the maximum power gain. If  $K < 1$  then  $G_{P\_MAX} = \text{MSG}$ .

■ TYPICAL CHARACTERISTICS



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