



UFU520

DUAL TRANSISTOR

DUAL NPN WIDEBAND SILICON RF TRANSISTOR

DESCRIPTION

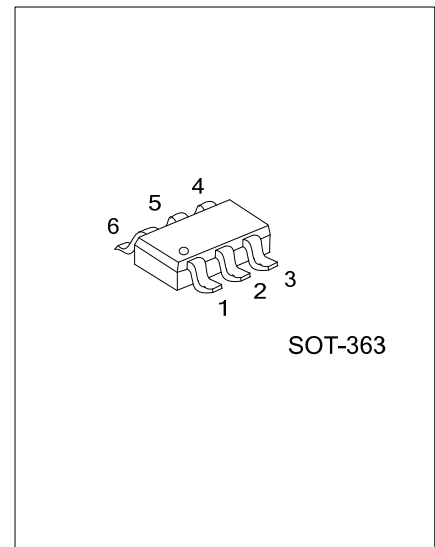
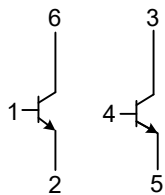
The UTC **UFU520** are Dual NPN silicon RF transistor for high speed, low noise applications in a plastic.

The UTC **UFU520** suitable for small signal to medium power applications up to 2 GHz.

FEATURES

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

EQUIVALENT CIRCUIT



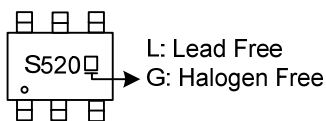
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
UFU520L-AL6-R	UFU520G-AL6-R	SOT-363	B1	E1	C2	B2	E2	C1	Tape Reel

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

<p>UFU520G-AL6-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) AL6: SOT-363</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}	24	V
Collector-emitter voltage	BV_{CEO}	12	V
Emitter-Base Voltage	BV_{EBO}	2	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	$^{\circ}\text{C}$

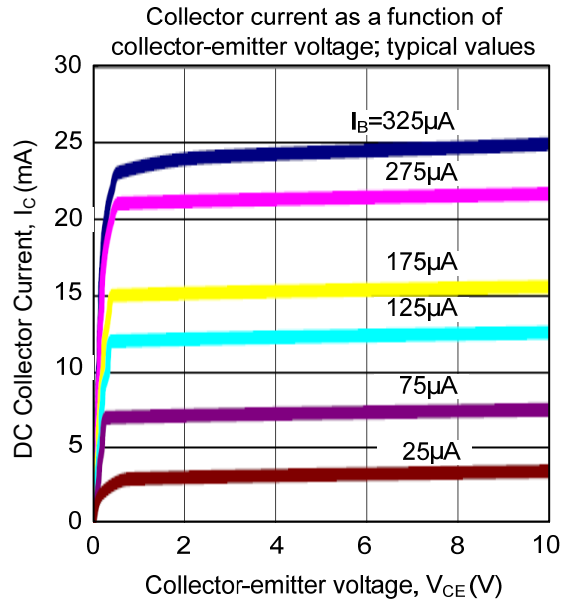
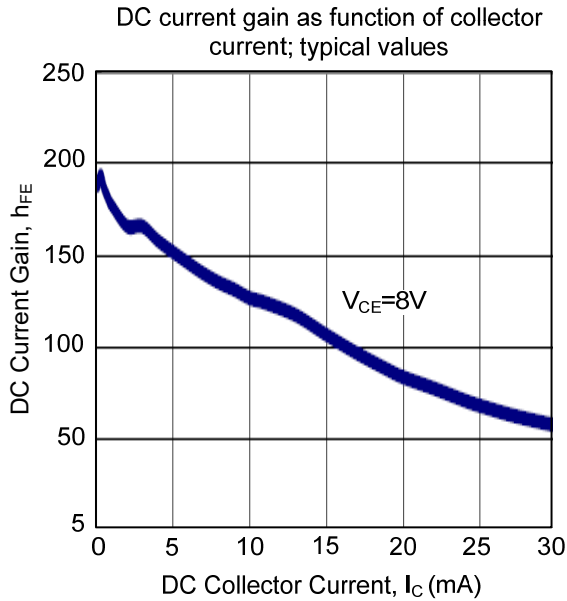
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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	V
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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