



BFU520Y

Dual NPN Wideband Silicon RF Transistor

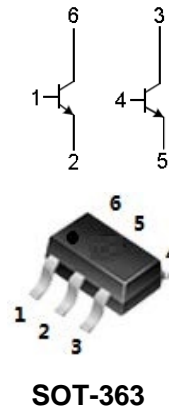


Features

- 10GHz f_T silicon technology
- Low noise, high breakdown RF transistor

Mechanical Data

- Case: SOT-363
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-363

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	24	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	2	V
Collector Current	I_C	30	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (Collector)	P_D	450	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JL}$	140	$^\circ\text{C}/\text{W}$
Operating Junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$



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Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\text{nA}, I_E = 0$	24	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 150\text{nA}, I_B = 0$	12	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 8\text{V}, I_E = 0$	-	1	-	nA
DC Current Gain	h_{FE}	$V_{CE} = 8\text{V}, I_C = 5\text{mA}$	60	-	200	-
Collector Capacitance	C_C	$V_{CE} = 8\text{V}, f = 1\text{MHz}$	-	0.48	-	V
Emitter Capacitance	C_e	$V_{EB} = 0.5\text{V}, f = 1\text{MHz}$	-	0.64	-	V
Feedback Capacitance	C_{re}	$V_{EB} = 8\text{V}, f = 1\text{MHz}$	-	0.3	-	V
Transition Frequency	f_t	$V_{CE} = 8\text{V}, I_C = 10\text{mA}$ $f = 900\text{MHz}$	-	10	-	GHz

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

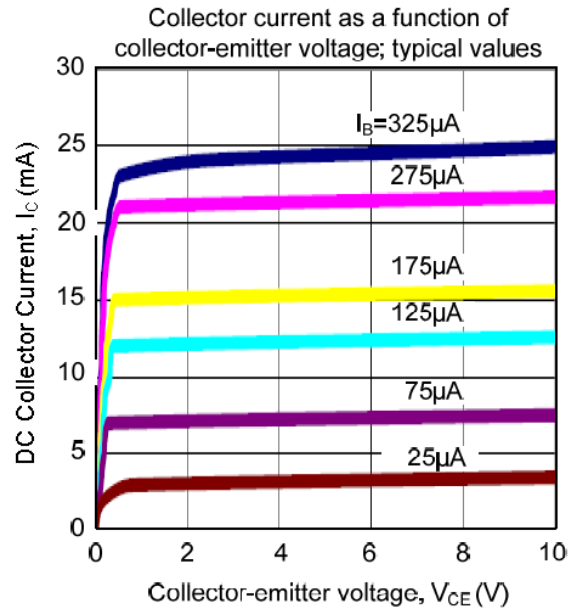
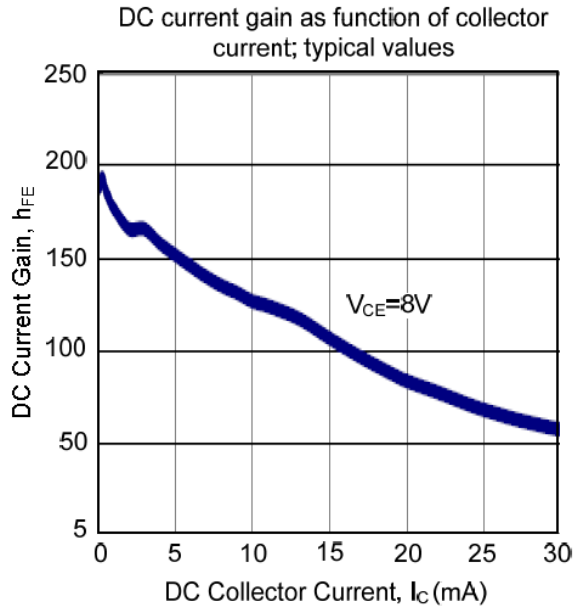


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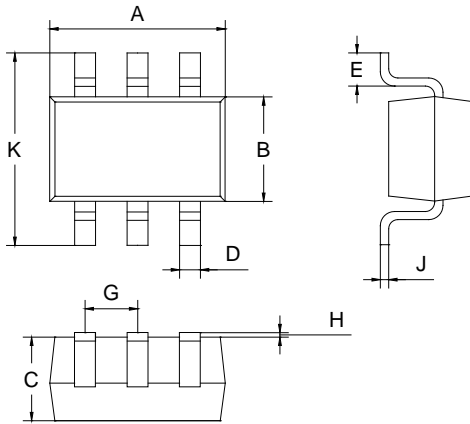


Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)





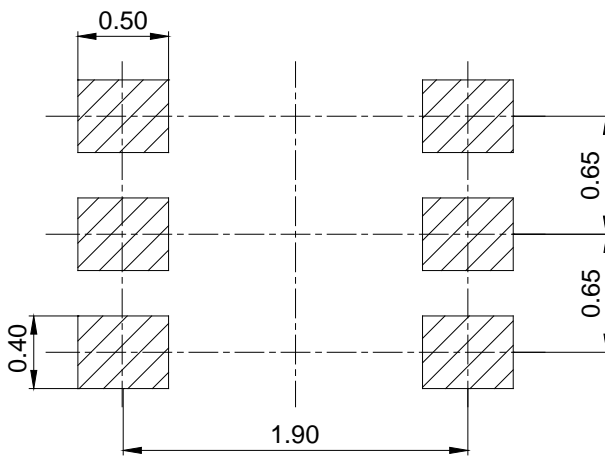
Package Outline Dimensions (Unit: mm)



SOT-363		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Package Outline Dimensions (Unit: mm)

SOT-363



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BFU520Y	SOT-363	3000pcs / Tape & Reel	U520G