

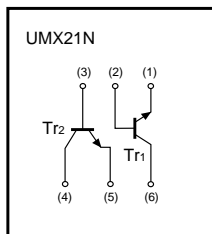
High transition frequency (dual transistors)

UMX21N

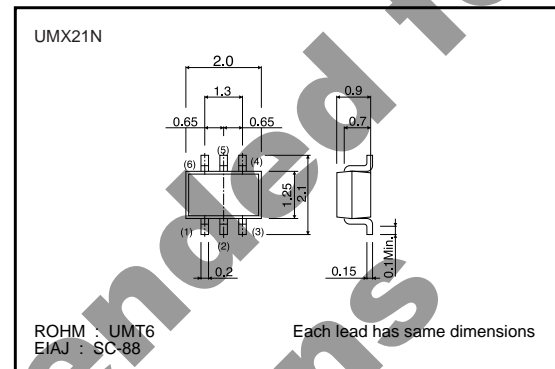
●Features

- 1) Two 2SC4713K chips in a UMT package.
- 2) Very low output-on resistance. (Ron)
- 3) Low capacitance.

●Equivalent circuits



●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	12	V
Collector-emitter voltage	V _{CE0}	6	V
Emitter-base voltage	V _{EB0}	3	V
Collector current	I _C	50	mA
Collector power dissipation	P _C	150	mW *
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

* 120mW per element must not be exceeded.

●Package, marking, and packaging specifications

Type	UMX21N
Package	UMT6
Marking	X21
Code	TR
Basic ordering unit (pieces)	3000

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	12	-	-	V	I _C =10μA
Collector-emitter breakdown voltage	BV _{CE0}	6	-	-	V	I _C =1mA
Emitter-base breakdown voltage	BV _{EB0}	3	-	-	V	I _E =10μA
Collector cutoff current	I _{CB0}	-	-	0.5	μA	V _{CB} =10V
Emitter cutoff current	I _{EB0}	-	-	0.5	μA	V _{EB} =2V
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	0.3	V	I _C /I _E =10mA/1mA
DC current transfer ratio	h _{FE}	270	-	560	-	V _{CE} /I _C =5V/10mA
Transition frequency	f _r	300	800	-	MHz	V _{CE} =5V, I _E =-10mA, f=200MHz
Output capacitance	C _{ob}	-	1	1.7	pF	V _{CB} =10V, I _E =0A, f=1MHz
Output-on resistance	R _{on}	-	2	-	Ω	I _B =3mA, V _I =100mVrms, f=500kHz

This product might cause chip aging and breakdown under the large electrified environment.
Please consider to design ESD protection circuit.

Transistors

●Electrical characteristics curves

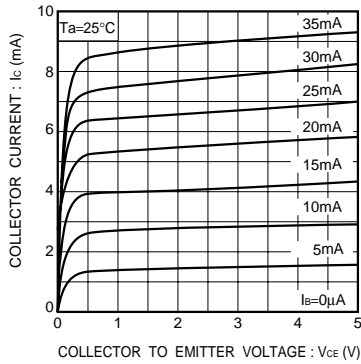


Fig.1 Grounded emitter output characteristics (I)

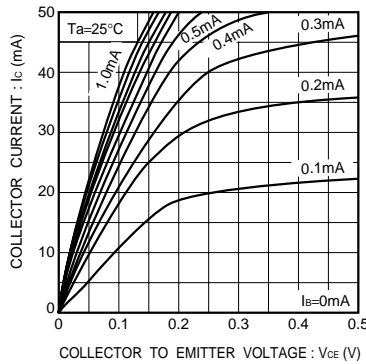


Fig.2 Grounded emitter output characteristics (II)

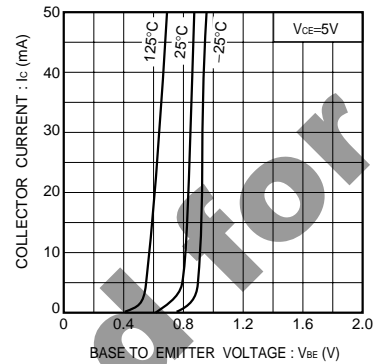


Fig.3 Grounded emitter propagation characteristics

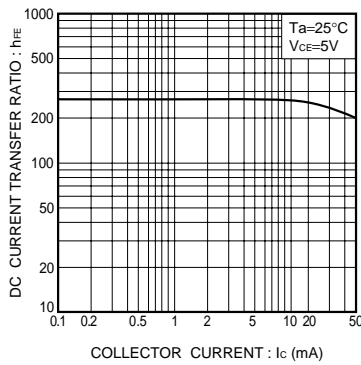


Fig.4 DC current gain vs. collector current

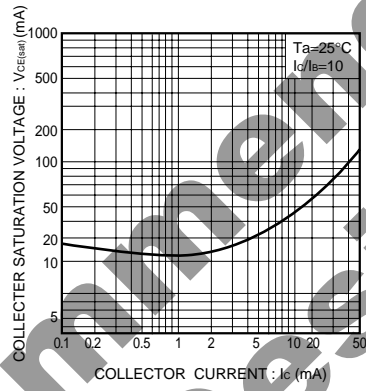


Fig.5 Collector-emitter saturation voltage vs. collector current

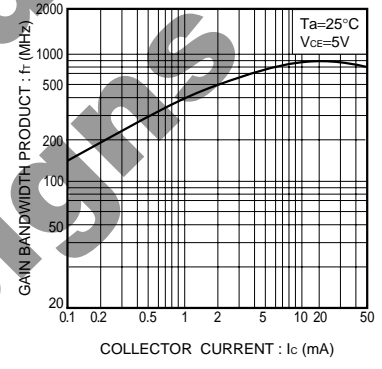


Fig.6 Gain bandwidth product vs. collector current

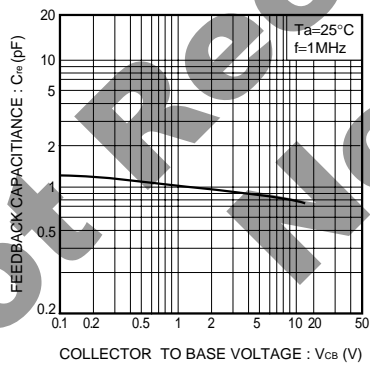


Fig.7 Collector output capacitance vs. voltage

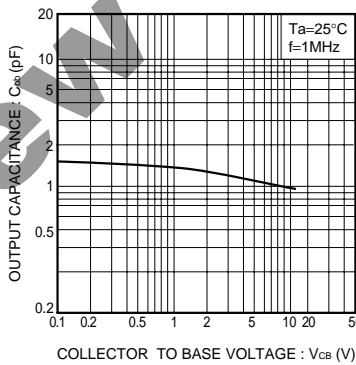


Fig.8 Back capacitance voltage vs. collector current

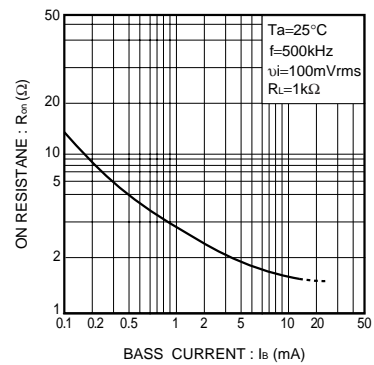


Fig.9 Output-on resistance vs. base current

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