

Power management (dual transistors)

VT6X12

●Structure

NPN silicon epitaxial planar transistor

●Features

- 1) Very small package with two transistors.
- 2) Suitable for current mirror circuits.

●Applications

Current mirror circuits

●Packaging specifications

Type	Package	Taping
	Code	T2R
	Basic ordering unit (pieces)	8000
VT6X12		○

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CB0}	50	V	
Collector-emitter voltage	V_{CE0}	50	V	
Emitter-base voltage	V_{EB0}	5	V	
Collector current	I_C	100	mA	
	I_{CP}^{*1}	200	mA	
Power dissipation	Total	P_D^{*2}	150	mW
	Element		120	mW
Junction temperature	T_j	150	°C	
Range of storage temperature	T_{stg}	-55 to +150	°C	

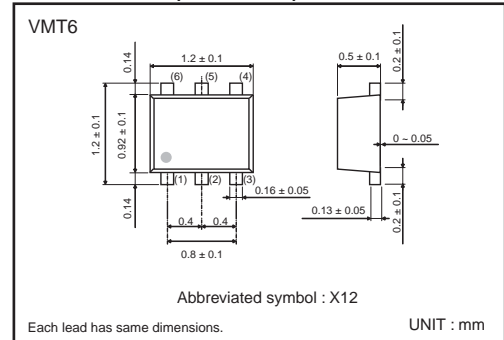
*1 $P_w=1mS$ Single pulse

*2 Each terminal mounted on a recommended land

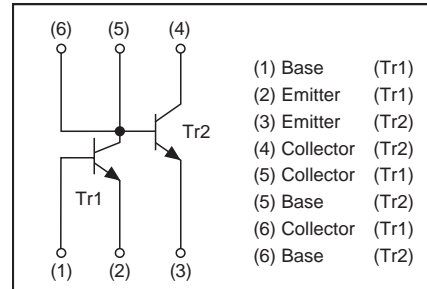
●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CE0}	50	-	-	V	$I_C=1mA$
Collector-base breakdown voltage	BV_{CB0}	50	-	-	V	$I_C=50\mu A$
Emitter-base breakdown voltage	BV_{EB0}	5	-	-	V	$I_E=50\mu A$
Collector cut-off current	I_{CBO}	-	-	0.1	μA	$V_{CB}=50V$
Emitter cut-off current	I_{EBO}	-	-	0.1	μA	$V_{EB}=5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.10	0.30	V	$I_C=50mA, I_B=5mA$
DC current gain	h_{FE}	120	-	560	-	$V_{CE}=6V, I_C=1mA$
DC current gain ratio	$h_{FE(Tr1)} / h_{FE(Tr2)}$	0.9	-	1.1	-	$V_{CE}=6V, I_C=1mA$
Transition frequency	f_T	-	350	-	MHz	$V_{CE}=10V, I_E=-10mA, f=100MHz$
Output capacitance	C_{ob}	-	1.6	-	pF	$V_{CB}=10V, I_E=0A, f=1MHz$

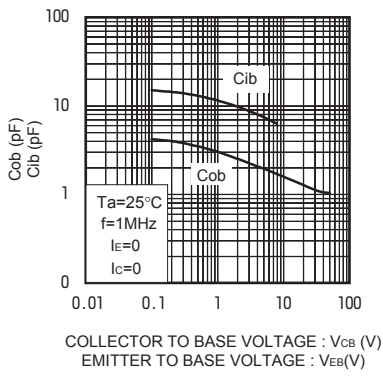
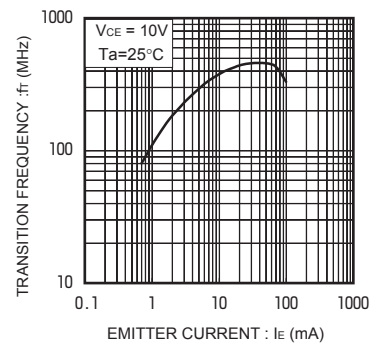
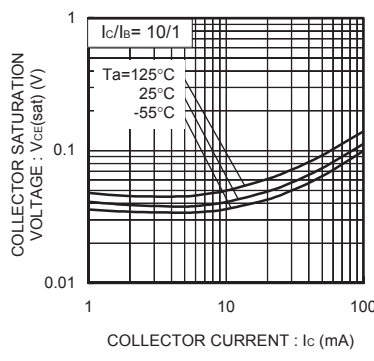
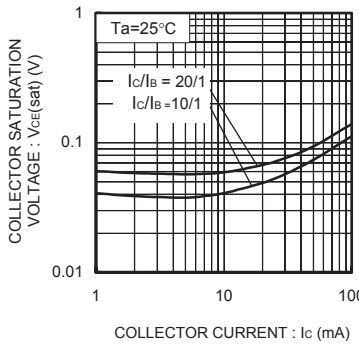
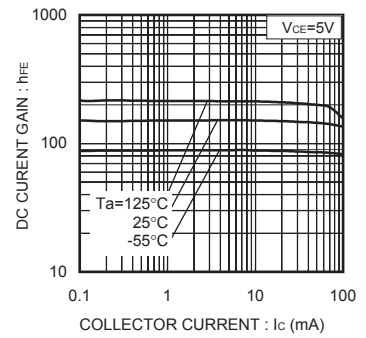
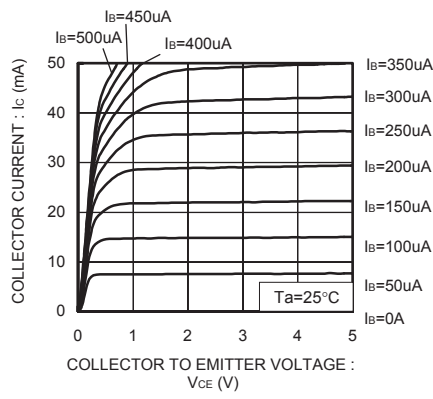
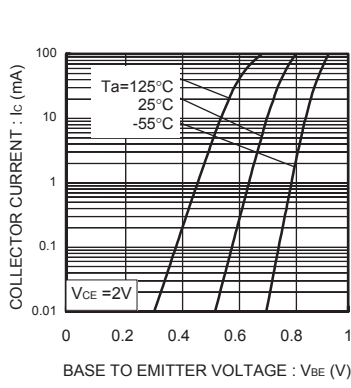
●Dimensions (Unit : mm)



●Inner circuit



●Electrical characteristics curves



Notes

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