

EMB4 / UMB4N / IMB4A

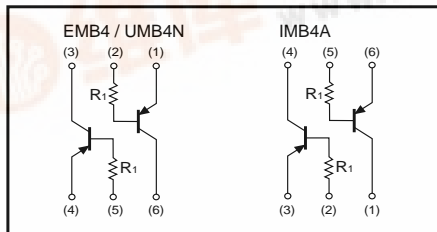
Transistors

General purpose (dual digital transistors)
EMB4 / UMB4N / IMB4A

●Feature

- 1) Two DTA114T chips in a EMT or UMT or SMT package.

●Equivalent circuits



●Package, marking, and packaging specifications

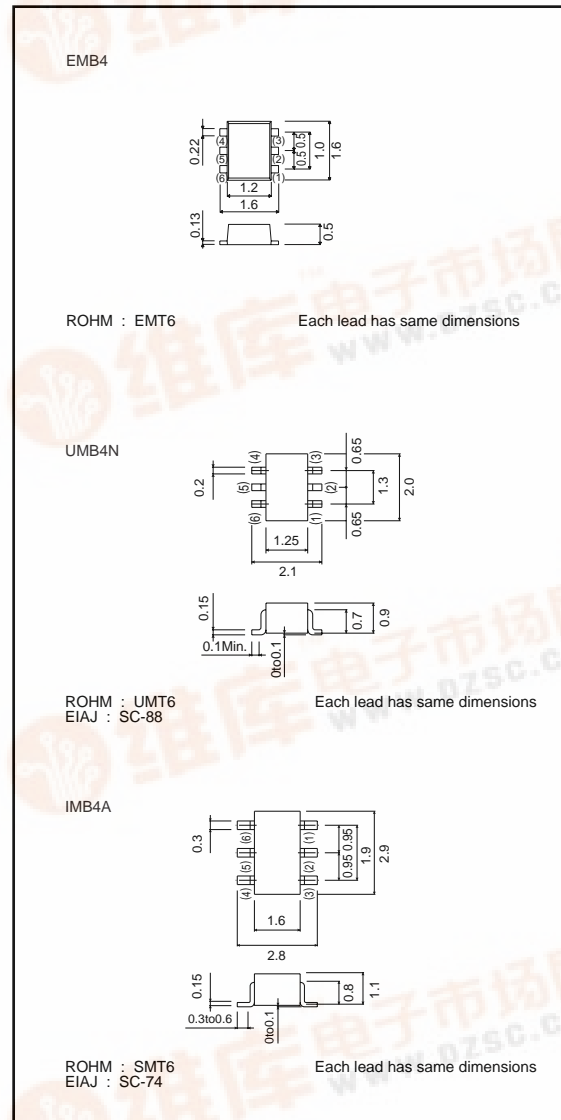
Type	EMB4	UMB4N	IMB4A
Package	EMT6	UMT6	SMT6
Marking	B4	B4	B4
Code	T2R	TN	T110
Basic ordering unit (pieces)	8000	3000	3000

●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	
Power dissipation	EMB4 / UMB4N	Pd	150(TOTAL)	mW *1
	IMB4A		300(TOTAL)	mW *2
Junction temperature	T _j	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	

*1 120mW per element must not be exceeded.
*2 200mW per element must not be exceeded.

●External dimensions (Unit : mm)



Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-50	-	-	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-50	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -50\mu A$
Collector cutoff current	I_{CBO}	-	-	-0.5	μA	$V_{CB} = -50V$
Emitter cutoff current	I_{EBO}	-	-	-0.5	μA	$V_{EB} = -4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	-0.3	V	$I_C/I_B = -10mA/-1mA$
DC current transfer ratio	h_{FE}	100	250	600	-	$V_{CE} = -5V, I_C = -1mA$
Transition frequency	f_T	-	250	-	MHz	$V_{CE} = -10V, I_E = 5mA, f = 100MHz$ *
Input resistance	R_1	7	10	13	$k\Omega$	-

*Transition frequency of the device.

●Electrical characteristics curves

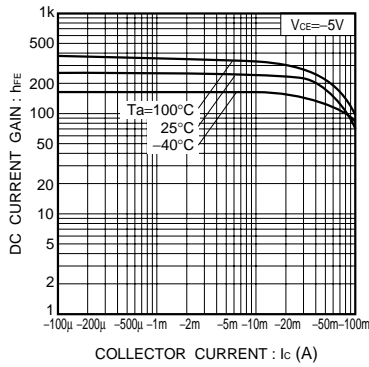


Fig.1 DC current gain vs. collector current

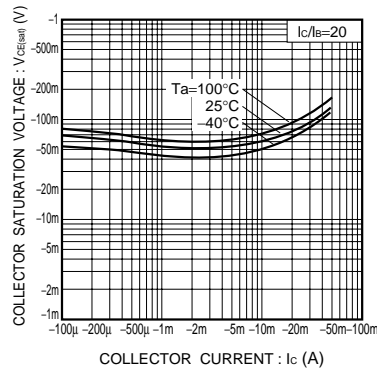


Fig.2 Collector-emitter saturation voltage vs. collector current

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