

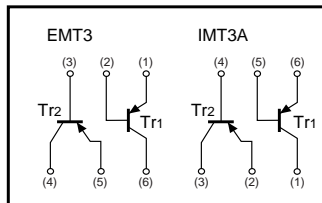
# General purpose (dual transistors)

## EMT3 / IMT3A

### ●Features

1) Two 2SA1037AK chips in a EMT or SMT package.

### ●Equivalent circuits



### ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CB0}$	-60	V
Collector-emitter voltage	$V_{CE0}$	-50	V
Emitter-base voltage	$V_{EB0}$	-6	V
Collector current	$I_C$	-150	mA
Collector power dissipation	EMT3	150(TOTAL)	mW *1
	IMT3A	300(TOTAL)	
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.

### ●Package, marking, and packaging specifications

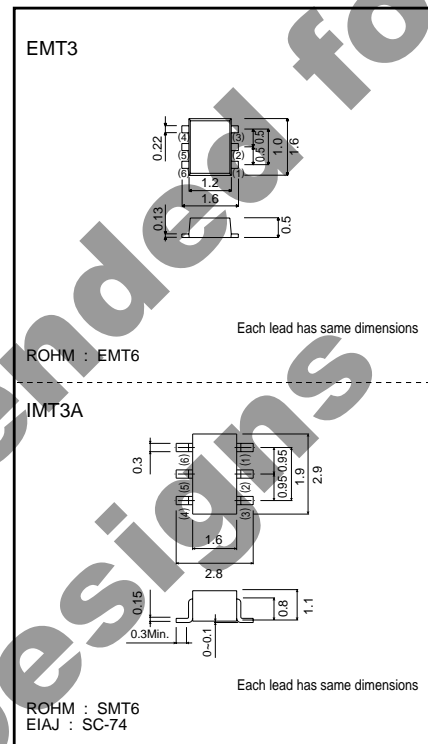
Type	EMT3	IMT3A
Package	EMT6	SMT6
Marking	T3	T3
Code	T2R	T108
Basic ordering unit (pieces)	8000	3000

### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CB0}$	-60	-	-	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	$BV_{CE0}$	-50	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	$BV_{EB0}$	-6	-	-	V	$I_E = -50\mu A$
Collector cutoff current	$I_{CB0}$	-	-	-0.1	$\mu A$	$V_{CB} = -60V$
Emitter cutoff current	$I_{EB0}$	-	-	-0.1	$\mu A$	$V_{EB} = -6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	-0.5	V	$I_C/I_B = -50mA/-5mA$
DC current transfer ratio	$h_{FE}$	120	-	560	-	$V_{CE} = -6V, I_C = -1mA$
Transition frequency	$f_T$	-	140	-	MHz	$V_{CE} = -12V, I_E = 2mA, f = 100MHz$ *
Output capacitance	$C_{ob}$	-	4	5	pF	$V_{CE} = -12V, I_E = 0A, f = 1MHz$

\*Transition frequency of the device.

### ●External dimensions (Unit : mm)



Transistors

●Electrical characteristics curves

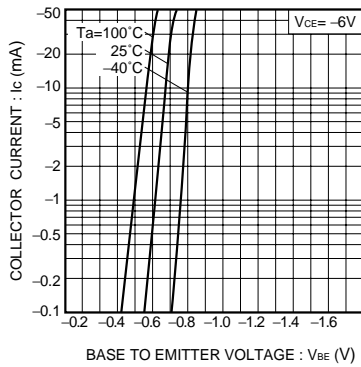


Fig.1 Grounded emitter propagation characteristics

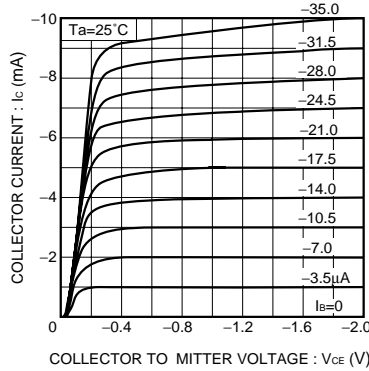


Fig.2 Grounded emitter output characteristics (I)

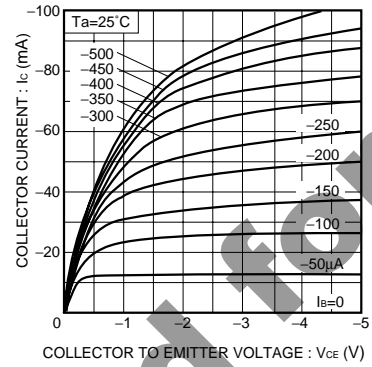


Fig.3 Grounded emitter output characteristics (II)

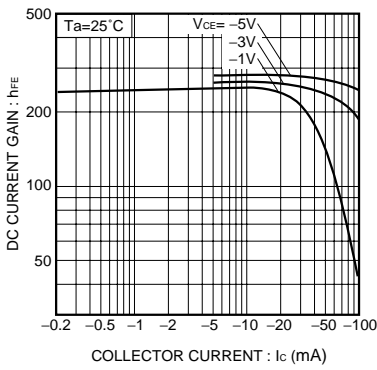


Fig.4 DC current gain vs. collector current (I)

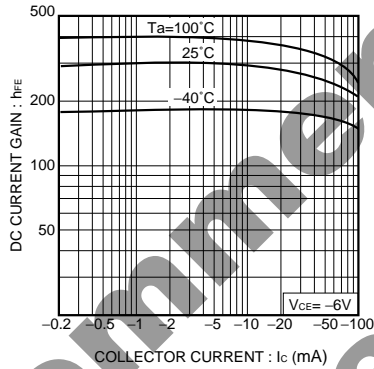


Fig.5 DC current gain vs. collector current (II)

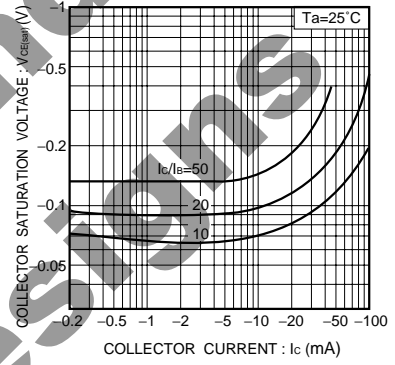


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

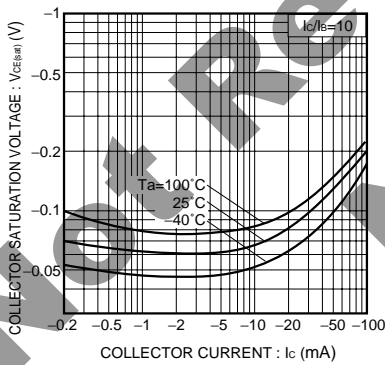


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

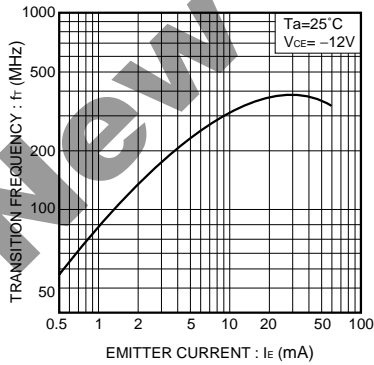


Fig.8 Gain bandwidth product vs. emitter current

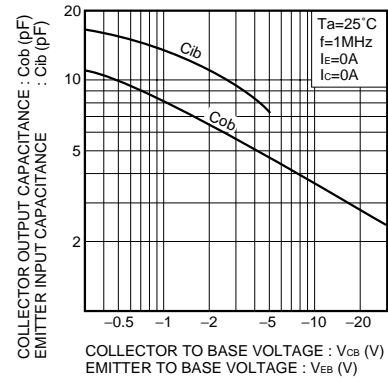


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

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