

Digital Transistor (Dual Digital Transistors for Inverter Drive)

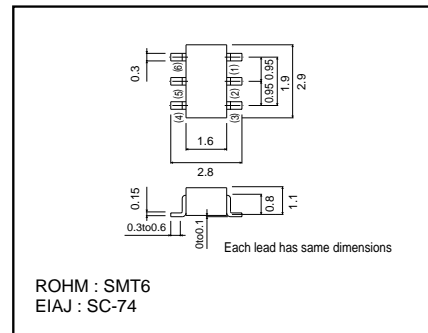
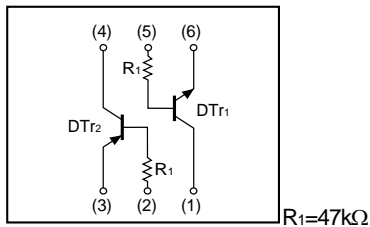
IMD8A

●Features

1) Both the DTA144T chip and DTC144T chip in a SMT package.

●External dimensions (Unit : mm)

●Circuit diagram



●Package, marking, and packaging specifications

Type	IMD8A
Package	SMT6
Marking	D8
Code	T108
Basic ordering unit (pieces)	3000

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	100	mA
Collector power dissipation	P_C	300(TOTAL)	mW *
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

* 200mW per element must not be exceeded. PNP type negative symbols have been omitted.

●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	$I_C=5mA, I_B=0.5mA$
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	32.9	47	61.1	k Ω	-

PNP type negative symbols have been omitted.
*Characteristics of built-in transistor.

Transistors

●Electrical characteristic curves

DTr1

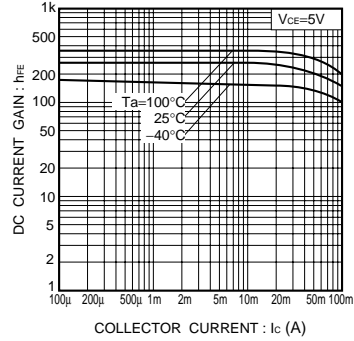


Fig.1 DC current gain vs. collector current

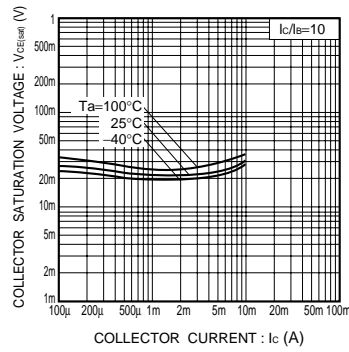


Fig.2 Collector-emitter saturation voltage vs. collector current

DTr2

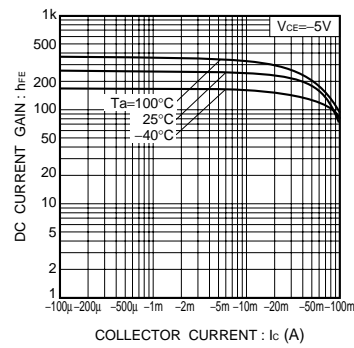


Fig.3 DC current gain vs. collector current

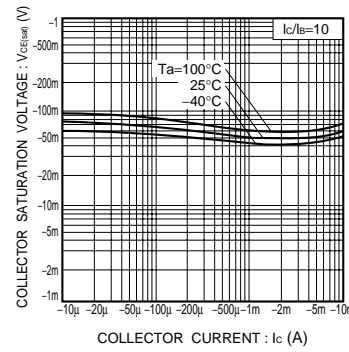


Fig.4 Collector-emitter saturation voltage vs. collector current

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