

SOT-23 DIGITAL TRANSISTORS TRANSISTORS (NPN)

FEATURES

- * Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.(see equivalent circuit).
- * The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely Eliminating parasitic effects.
- * Only the on/off conditions need to be set for operation marking device design easy.

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-O rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any * Weight: 0.008 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



- (1) Base (2) Emitter
- (2) Emitter (3) Collector

MAXIMUM RATINGES (@ TA = 25°C unless otherwise noted)

MAXIMOM NATINGEO (@ 1A - 20 G unicas duriciwise noted)							
RATINGS	SYMBOL	VALUE	UNITS				
Collector-Base Voltage	V _{CBO}	50	V				
Collector-Emitter Voltage	V _{CEO}	50	٧				
Emitter-base Voltage	V _{EBO}	5	٧				
Collector Continuous Current	Ic	100	mA				
Collector Dissipation	Pc	200	mW				
Junction Temperature	TJ	150	°C				
Junction and storage Temperature	TJ ,TSTG	-55 to +150	°C				

ELECTRICAL CHARACTERISTICS (@ TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Collector-base breakdown voltage (I _C =50uA,I _E =0)	V _{(BR)CBO}	50	-	-	V
Collector-emitter breakdown voltage (I _C =1mA,I _B =0)	V _{(BR)CEO}	50	-	-	٧
Emitter-base breakdown voltage (I _E =50uA,I _C =0)	V _{(BR)EBO}	5	-	-	V
Collector cut-off current (V _{CB} =50V,I _E =0)	I _{CBO}	-	-	0.5	mA
Emitter cut-off current (V _{EB} =4V,I _C =0)	I _{EBO}	=	-	0.5	mA
DC current gain (V _{CE} =5V,I _C =1mA)	h _{FE}	100	300	600	
Collector-emitter saturation voltage (I _C =5mA,I _B =0.5mA)	V _{CE(sat)}	-	-	0.3	V
Transition frequency (V _{CE} =10V,I _C = -5mA,f=100MHz)	f _T	-	250	-	MHz
Input resistor	R ₁	32.9	47	61.1	ΚΩ

Note: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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RATING AND CHARACTERISTICS CURVES (DTC144TCA)

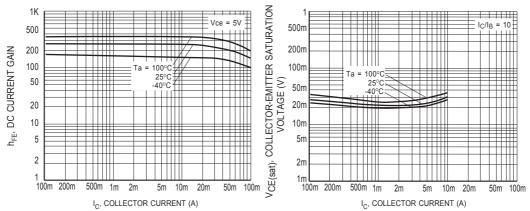


Figure1 DC current gain vs. collector current

Figure2 Collector-emitter saturation voltage vs.collector current

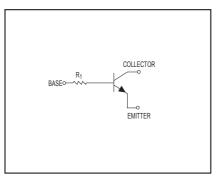


Figure3 Equivalent circuit



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