



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

M28S

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

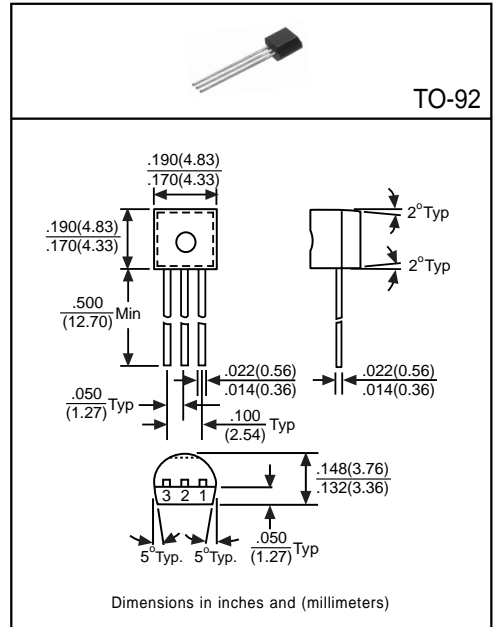
Designed for use in general purpose "Speech Synthesizer" (Voice ROM) IC audio output driver stage amplifier applications.

Pinning

- 3 = Emitter
- 1 = Collector
- 2 = Base

Absolute Maximum Ratings (TA=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	40	V
Collector-Emitter Voltage	V _{CE0}	20	V
Emitter-Base Voltage	V _{EB0}	6	V
Collector Current	I _C	1.25	A
Base Current	I _B	0.4	A
Total Power Dissipation	P _D	850	mW
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 to +150	°C



Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV _{CB0}	40	-	-	V	I _C =100μA, I _E =0
Collector-Emitter Breakdown Voltage	BV _{CE0}	20	-	-	V	I _C =1mA, I _B =0
Emitter-Base Breakdown Voltage	BV _{EB0}	6	-	-	V	I _E =100μA, I _C =0
Collector Cutoff Current	I _{CBO}	-	-	0.1	μA	V _{CB} =35V, I _E =0
Emitter Cutoff Current	I _{EBO}	-	-	0.1	μA	V _{EB} =6V, I _C =0
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)}	-	-	0.55	V	I _C =600mA, I _B =20mA
DC Current Gain ⁽¹⁾	h _{FE1}	290	-	-	-	I _C =1mA, V _{CE} =1V
	h _{FE2}	300	-	1000	-	I _C =0.1A, V _{CE} =1V
	h _{FE3}	300	-	-	-	I _C =0.3A, V _{CE} =1V
	h _{FE4}	300	-	-	-	I _C =0.5A, V _{CE} =1V
Transition Frequency	f _T	100	-	-	MHz	I _C =50mA, V _{CE} =10V, f=1MHz
Output Capacitance	C _{ob}	-	9	-	pF	V _{CB} =10V, f=1MHz, I _E =0

(1) Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Classification of h_{FE2}

Rank	B	C	D
Range	300~550	500~700	650~1000