



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DXTA42

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

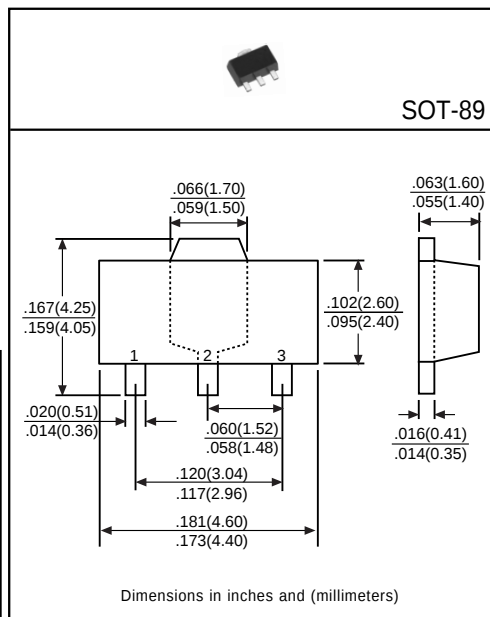
Designed for application as a video output to drive color CRT, or as a dialer circuit in electronics telephone.

Pinning

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

Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	300	V
Collector-Emitter Voltage	V_{CE0}	300	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current	I_C	500	mA
Total Power Dissipation	P_D	1	W
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$



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}	300	-	-	V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	BV_{CE0}	300	-	-	V	$I_C=1\text{mA}$
Emitter-Base Breakdown Voltage	BV_{EB0}	6	-	-	V	$I_E=10\mu\text{A}$
Collector Cutoff Current	I_{CB0}	-	-	100	nA	$V_{CB}=260\text{V}$
Emitter Cutoff Current	I_{EB0}	-	-	100	nA	$V_{EB}=6\text{V}$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	0.5	V	$I_C=20\text{mA}$, $I_B=2\text{mA}$
Base-Emitter Saturation Voltage ⁽¹⁾	$V_{BE(sat)}$	-	-	0.9	V	$I_C=20\text{mA}$, $I_B=2\text{mA}$
DC Current Gain ⁽¹⁾	h_{FE1}	25	-	-	-	$I_C=1\text{mA}$, $V_{CE}=10\text{V}$
	h_{FE2}	40	-	-	-	$I_C=10\text{mA}$, $V_{CE}=10\text{V}$
	h_{FE3}	40	-	-	-	$I_C=30\text{mA}$, $V_{CE}=10\text{V}$
Transition Frequency	f_T	50	-	-	MHz	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$
Output Capacitance	C_{ob}	-	3	-	pF	$V_{CB}=20\text{V}$

(1) Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$