



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

C945

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

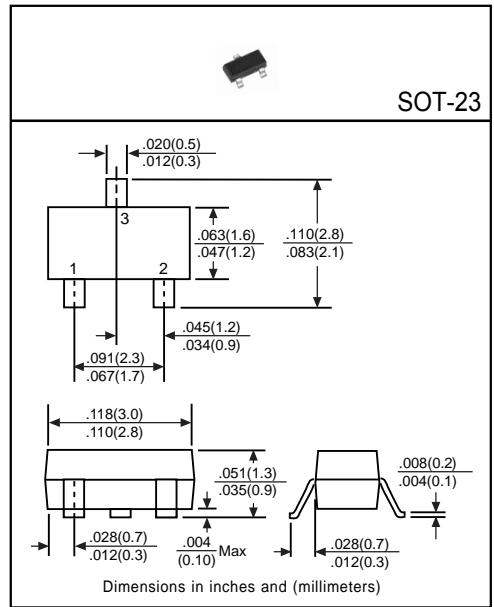
Designed for use in driver stage of AF amplifier applications.

Pinning

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

Absolute Maximum Ratings (T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CE0}	50	V
Emitter-Base Voltage	V _{EB0}	5	V
Collector Current	I _C	100	mA
Base Current	I _B	50	mA
Total Power Dissipation	P _D	200	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}	60	-	-	V	I _C =100μA, I _E =0
Collector-Emitter Breakdown Voltage	BV _{CE0}	50	-	-	V	I _C =1mA, I _B =0
Emitter-Base Breakdown Voltage	BV _{EB0}	5	-	-	V	I _E =10μA, I _C =0
Collector Cutoff Current	I _{CB0}	-	-	0.1	μA	V _{CB} =60V, I _E =0
Emitter Cutoff Current	I _{EB0}	-	-	0.1	μA	V _{EB} =5V, I _B =0
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)}	-	0.1	0.3	V	I _C =100mA, I _B =10mA
DC Current Gain ⁽¹⁾	h _{FE1}	50	-	-	-	I _C =0.1mA, V _{CE} =6V
	h _{FE2}	135	-	600	-	I _C =1mA, V _{CE} =6V
Transition Frequency	f _T	150	-	600	MHz	I _C =10mA, V _{CE} =6V, f=100MHz
Output Capacitance	C _{ob}	-	-	4	pF	V _{CB} =10V, f=1MHz, I _E =0

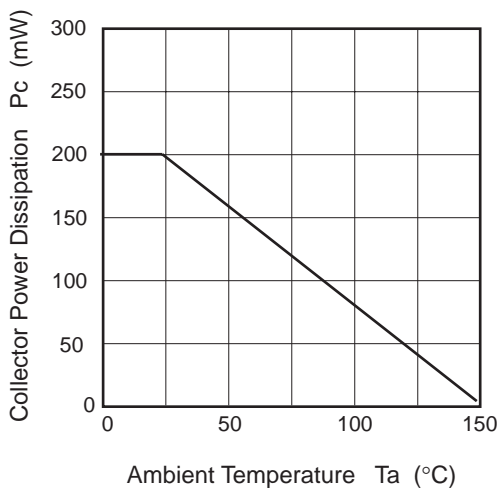
(1)Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Classification of h_{FE2}

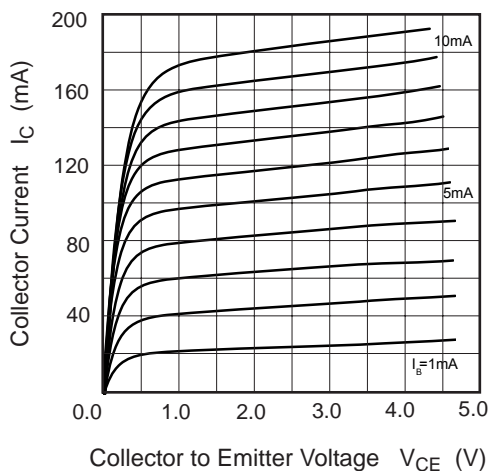
Rank	L	H
Range	130~200	200~400

Electrical Characteristic Curves

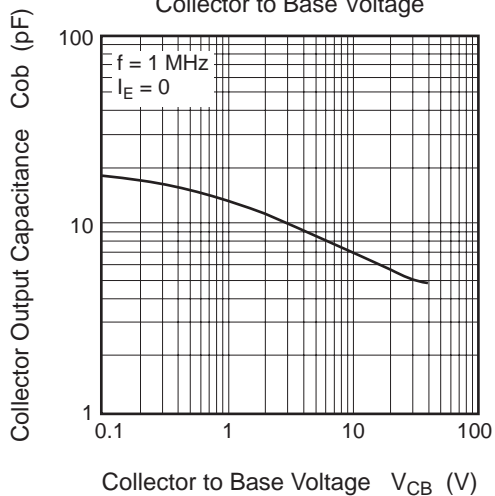
Maximum Collector Dissipation Curve



Typical Output Characteristics



Collector Output Capacitance vs. Collector to Base Voltage



DC Current Transfer Ratio vs. Collector Current

