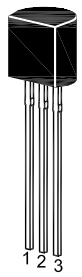
2SC945

NPN Silicon Epitaxial Planar Transistor

As complementary type the PNP transistor 2SA733 is recommended



1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Features

- The transistor is subdivided into five groups, R, O, Y, P and L, according to its DC current gain
- On special request, these transistors can be manufactured in different pin configurations

Applications

- For switching and AF amplifier

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Power Dissipation	P_{tot}	250	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	500	°C/W

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 6 V, I_C = 1 mA	Current Gain Group					
	R	h_{FE}	40	-	80	-
	O	h_{FE}	70	-	140	-
	Y	h_{FE}	120	-	240	-
	P	h_{FE}	200	-	400	-
	L	h_{FE}	350	-	700	-
Collector Base Cutoff Current at V_{CB} = 40 V		I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at V_{EB} = 3 V		I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage at I_C = 100 μA		$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at I_C = 10 mA		$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at I_E = 10 μA		$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at I_C = 100 mA, I_B = 10 mA		$V_{CE(sat)}$	-	-	0.3	V
Gain Bandwidth Product at V_{CE} = 6 V, I_C = 10 mA		f_T	-	300	-	MHz
Output Capacitance at V_{CB} = 6 V, f = 1 MHz		C_{ob}	-	1.5	-	pF

Packing information

Package	Bulk Packing			Ammo-Packing	
	Per Bag Qty	Per Box Qty	Per Carton Qty	Per Box Qty	Per Carton Qty
TO-92	1,000	5,000	50,000	4,000	20,000

Fig. 1 Output Characteristics Curve

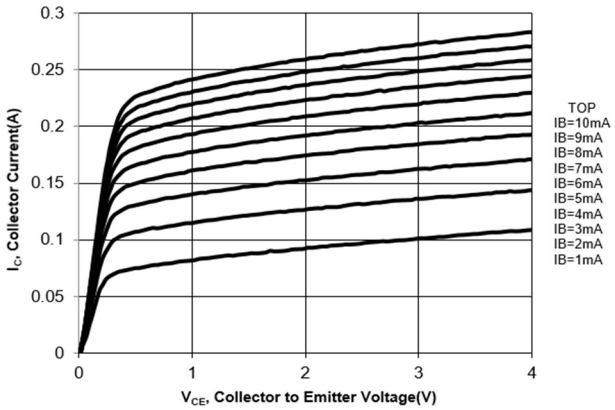


Fig. 2 Collector Curren vs. V_{BE}

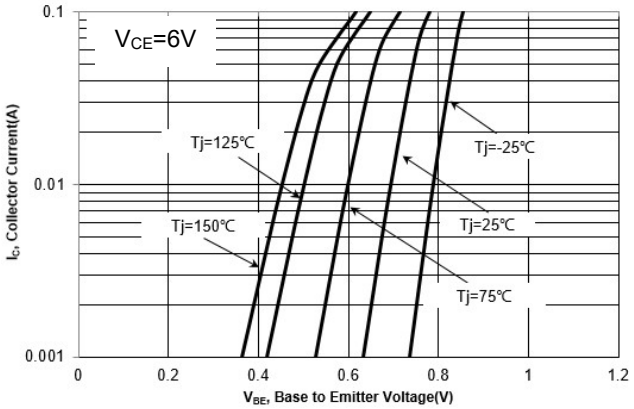


Fig. 3 h_{FE} vs. Collector Current

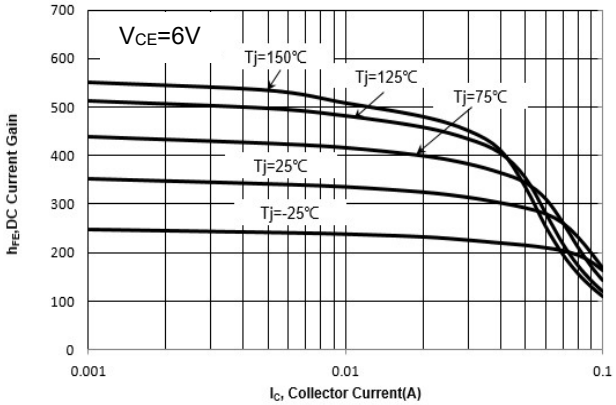


Fig. 4 $V_{BE(sat)}$ vs. Collector Current

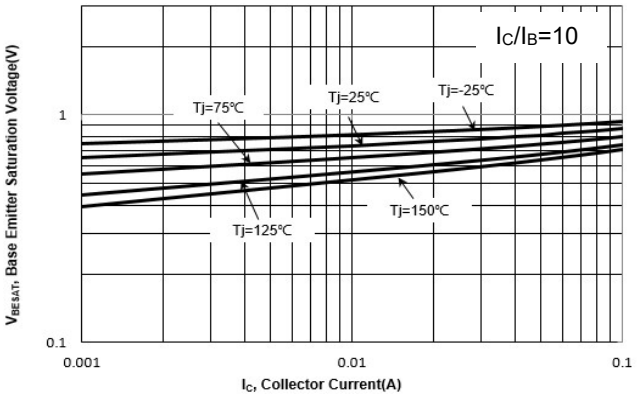


Fig. 5 $V_{CE(sat)}$ vs. Collector Current

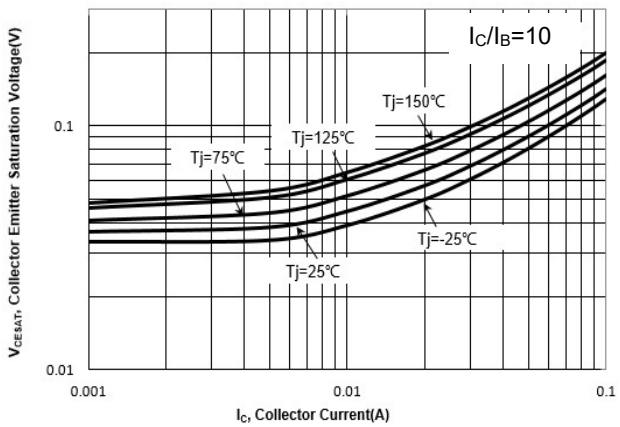


Fig 6. Output Capacitance

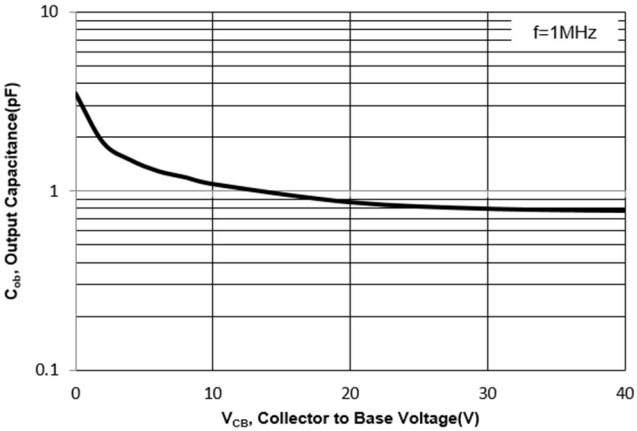
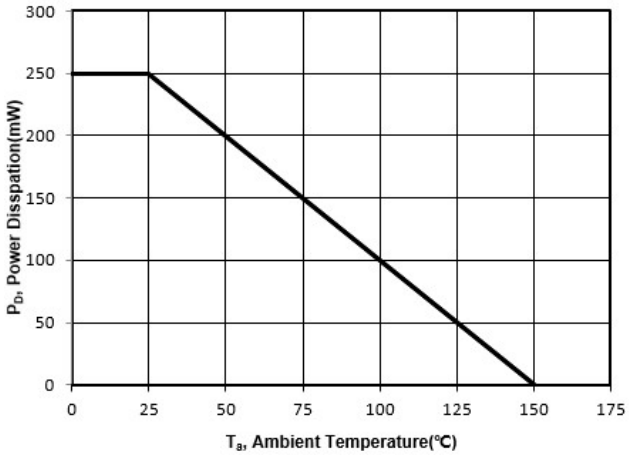
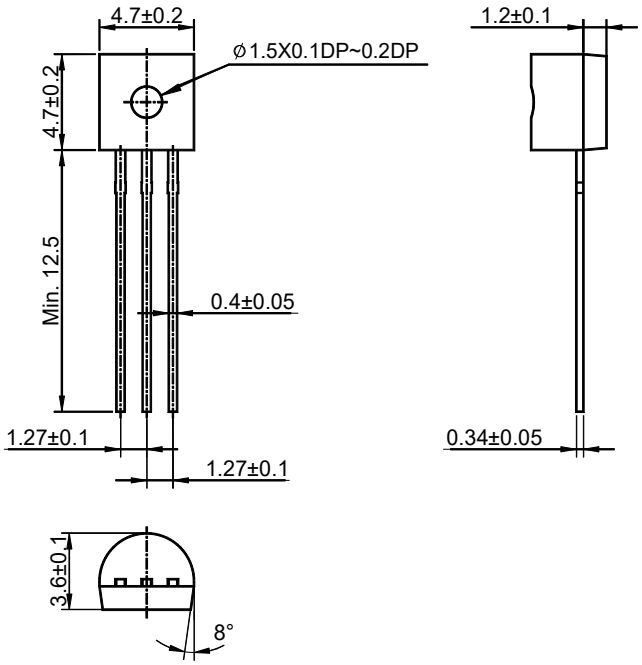


Fig. 7 Power Derating Curve



TO-92 Package Outline (Dimensions in millimeters)



TO-92 Ammo-Pack Outline (Dimensions in millimeters)

