

# 2SC3941

## Silicon NPN triple diffusion planer type

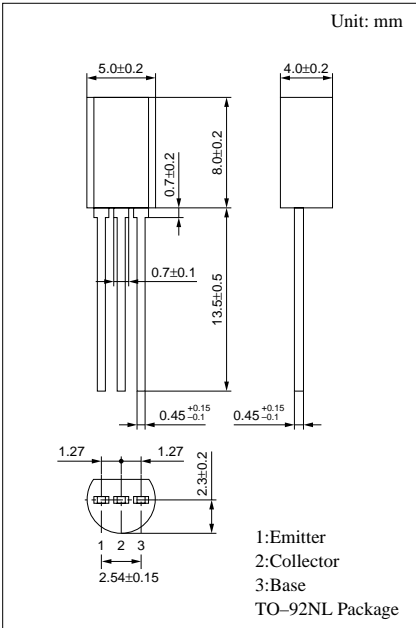
For high breakdown voltage general amplification  
 For small TV video output  
 Complementary to 2SB1221

### Features

- High collector to emitter voltage  $V_{CEO}$ .
- High transition frequency  $f_T$ .
- Allowing supply with the radial taping.

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

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	300	V
Collector to emitter voltage	$V_{CEO}$	300	V
Emitter to base voltage	$V_{EBO}$	7	V
Peak collector current	$I_{CP}$	100	mA
Collector current	$I_C$	70	mA
Collector power dissipation	$P_C$	1	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$

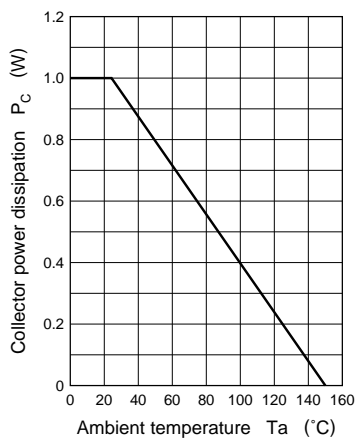
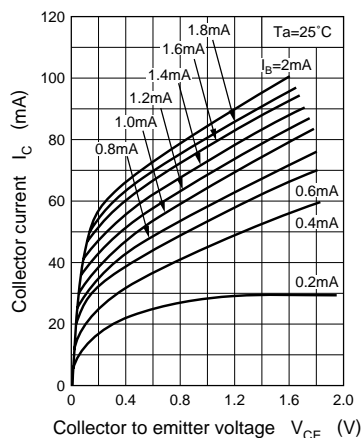
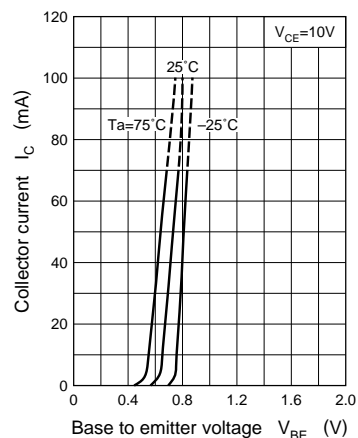
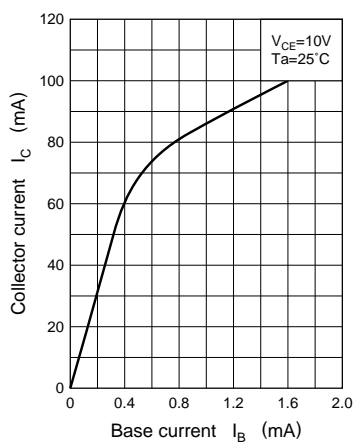
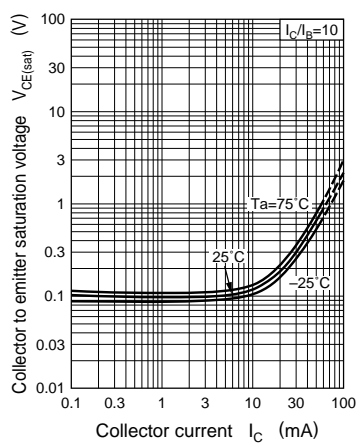
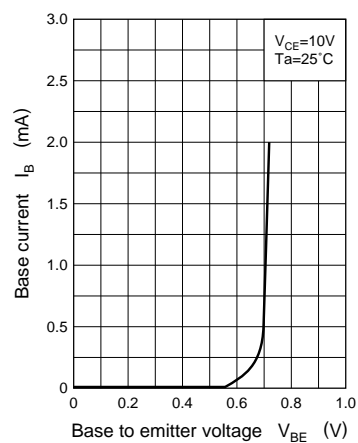
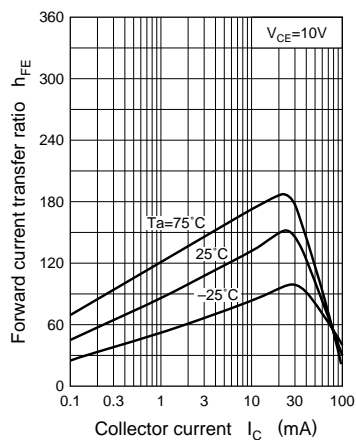
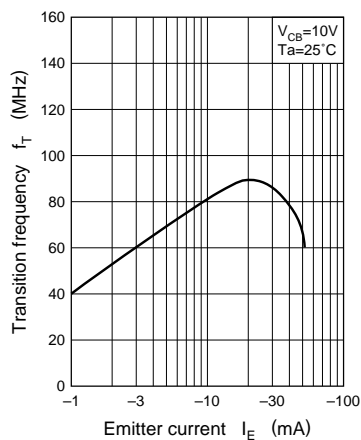
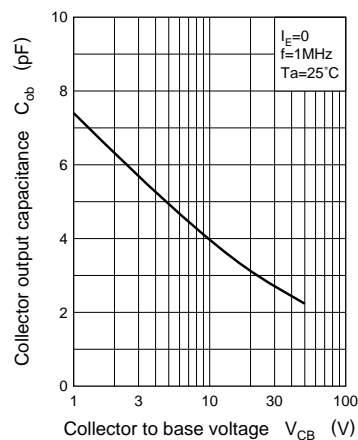


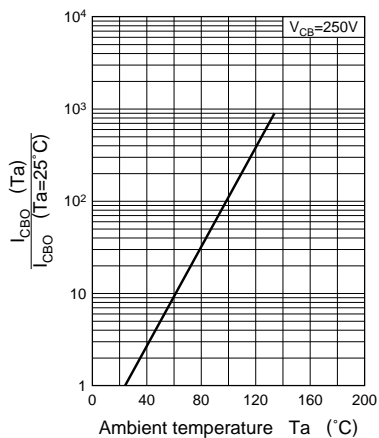
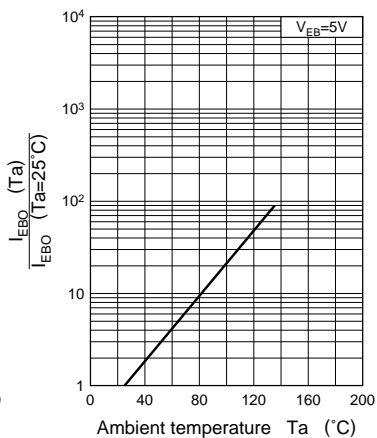
### Electrical Characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 100\text{V}, I_E = 0$			2	$\mu\text{A}$
Collector to emitter voltage	$V_{CEO}$	$I_C = 100\mu\text{A}, I_B = 0$	300			V
Emitter to base voltage	$V_{EBO}$	$I_E = 1\mu\text{A}, I_C = 0$	7			V
Forward current transfer ratio	$h_{FE}^*$	$V_{CB} = 10\text{V}, I_C = 5\text{mA}$	30		220	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$			1.2	V
Transition frequency	$f_T$	$V_{CB} = 10\text{V}, I_E = -10\text{mA}, f = 200\text{MHz}$	50	80		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		4	8	pF

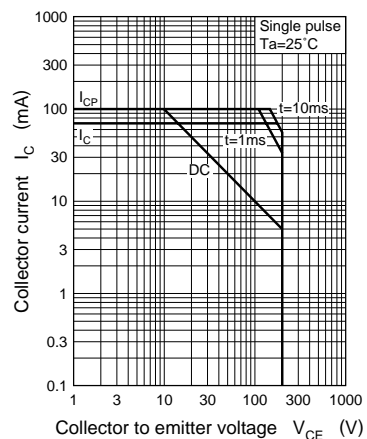
\* $h_{FE}$  Rank classification

Rank	P	Q	R
$h_{FE}$	30 ~ 100	60 ~ 150	100 ~ 220

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $I_C - I_B$  $V_{CE(sat)} - I_C$  $I_B - V_{BE}$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$ 

$I_{CBO} - T_a$  $I_{EBO} - T_a$ 

Area of safe operation (ASO)



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