

2SC3943

Silicon NPN epitaxial planar type

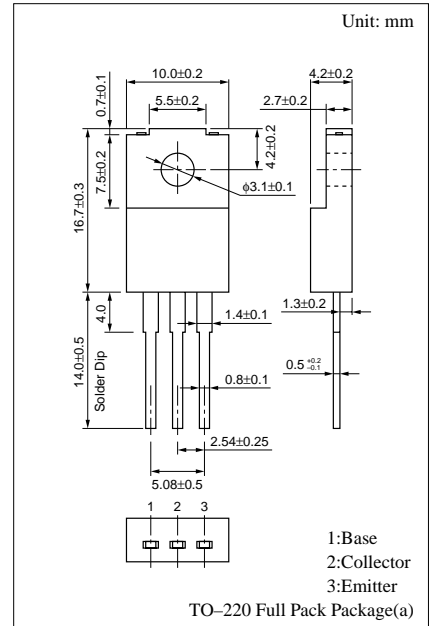
For video amplifier

Features

- Small transition frequency f_T
- Small collector output capacitance C_{ob}
- Full-pack package which can be installed to the heat sink with one screw

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

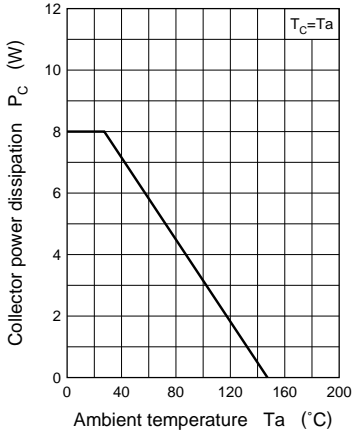
Parameter	Symbol	Ratings	Unit	
Collector to base voltage	V_{CBO}	110	V	
Collector to emitter voltage	V_{CER}	100	V	
	V_{CEO}	50	V	
Emitter to base voltage	V_{EBO}	3.5	V	
Peak collector current	I_{CP}	300	mA	
Collector current	I_C	150	mA	
Collector power dissipation	P_C	$T_C=25^\circ\text{C}$	8	W
		$T_a=25^\circ\text{C}$	2.0	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	



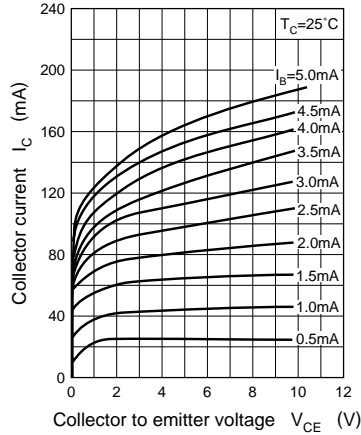
Electrical Characteristics ($T_C=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CEO}	$V_{CE} = 35\text{V}, I_B = 0$			10	μA
Collector to base voltage	V_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	110			V
Collector to emitter voltage	V_{CER}	$I_C = 500\mu\text{A}, R_{BE} = 470\Omega$	100			V
	V_{CEO}	$I_C = 1\text{mA}, I_B = 0$	50			V
Emitter to base voltage	V_{EBO}	$I_E = 100\mu\text{A}, I_C = 0$	3.5			V
Forward current transfer ratio	h_{FE}	$V_{CE} = 5\text{V}, I_C = 100\text{mA}$	20			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$			0.5	V
Transition frequency	f_{T1}	$V_{CE} = 10\text{V}, I_C = 10\text{mA}, f = 10\text{MHz}$		300		MHz
	f_{T2}	$V_{CE} = 10\text{V}, I_C = 110\text{mA}, f = 10\text{MHz}$		350		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 30\text{V}, I_E = 0, f = 1\text{MHz}$		3.5		pF

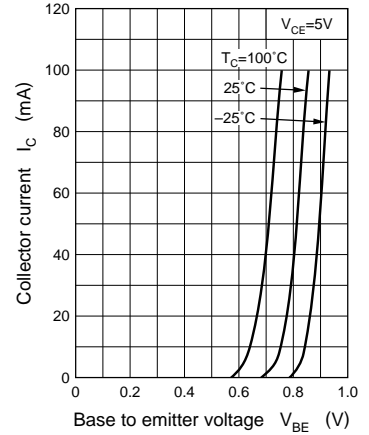
$P_C - T_a$



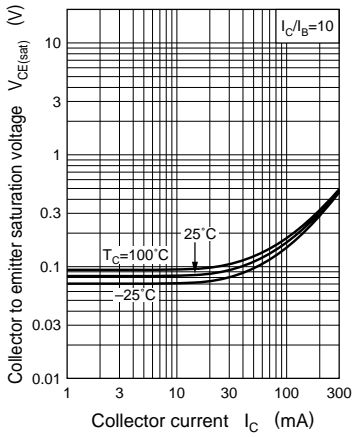
$I_C - V_{CE}$



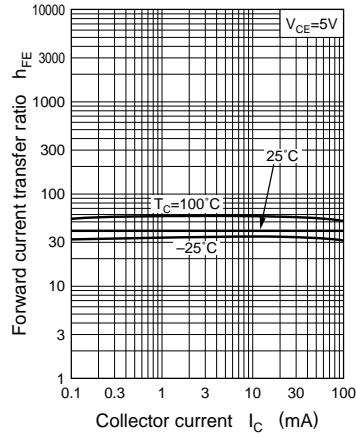
$I_C - V_{BE}$



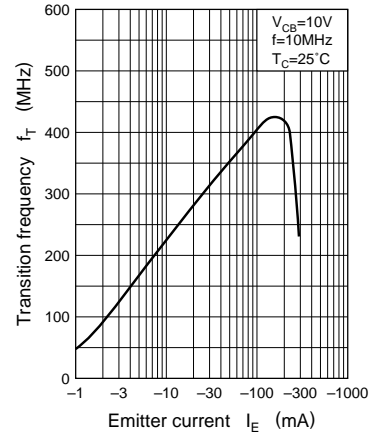
$V_{CE(sat)} - I_C$



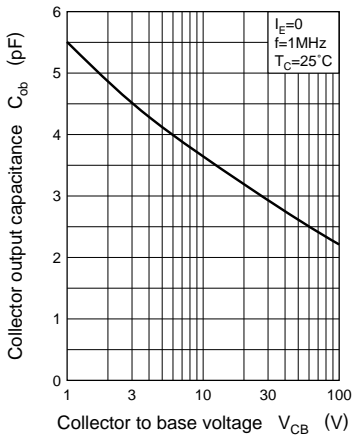
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)

