

	No.1057B	2SA1257/2SC3143 PNP/NPN Epitaxial Planar Silicon Transistors High-Voltage Switching, AF Power Amp, 100W Output Predriver Applications

Features

- Very small-sized package permitting the 2SA1257/2SC3143-applied sets to be made small and slim
- High breakdown voltage ($V_{CEO} \geq 160V$)
- Small output capacitance

() : 2SA1257

Absolute Maximum Ratings at $T_a = 25^\circ C$

			unit
Collector to Base Voltage	V_{CBO}	(-)180	V
Collector to Emitter Voltage	V_{CEO}	(-)160	V
Emitter to Base Voltage	V_{EBO}	(-)5	V
Collector Current	I_C	(-)80	mA
Collector Current(Pulse)	I_{CP}	(-)150	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	T_j	125	$^\circ C$
Storage Temperature	T_{stg}	- 55 to + 125	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

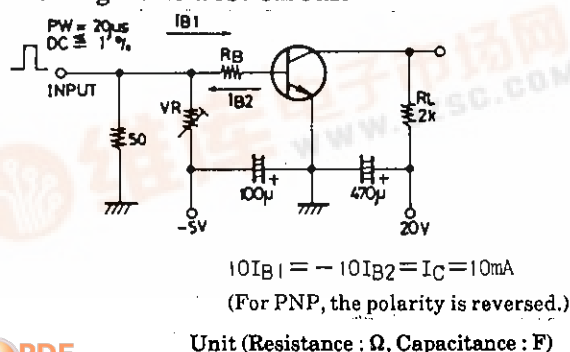
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)120V, I_E = 0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(-)0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = (-)5V, I_C = (-)10mA$	60*		270*	
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10V, I_C = (-)10mA$		(130)		MHz
				150		
Output Capacitance	c_{ob}	$V_{CB} = (-)10V, f = 1MHz$		(2.4)	(3.2)	pF
				2.0	2.8	
Base to Emitter Voltage	V_{BE}	$V_{CE} = (-)5V, I_C = (-)10mA$			(-)1.5	V
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)30mA, I_B = (-)3mA$			(-)0.7	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(-)5			V
Turn-on Time	t_{on}	See specified Test Circuit.	(0.15)	0.18		μs
Storage Time	t_{stg}	"	(0.95)	1.00		μs
Fall Time	t_f	"	(0.15)	0.20		μs

* : The 2SA1257/2SC3143 are classified by 10mA h_{FE} as follows :

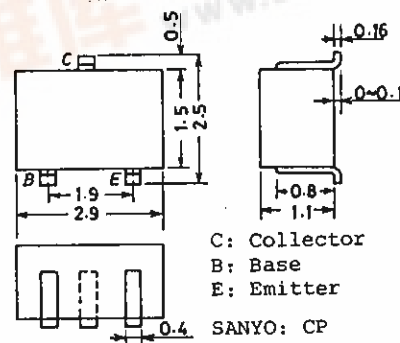
60	G3	120	90	G4	180	135	G5	270
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Marking 2SA1257 : G h_{FE} rank : 3, 4, 5,
2SC3143 : K

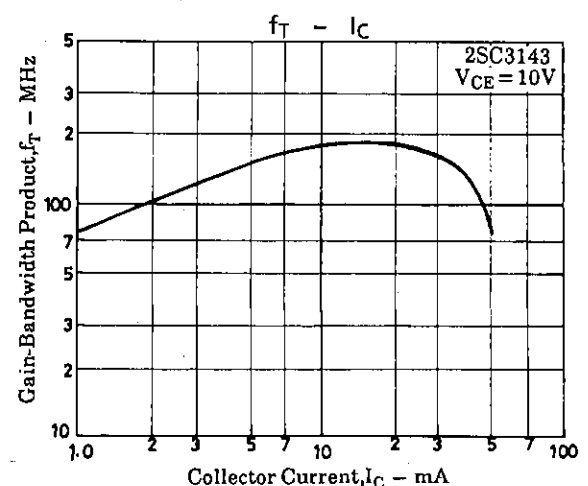
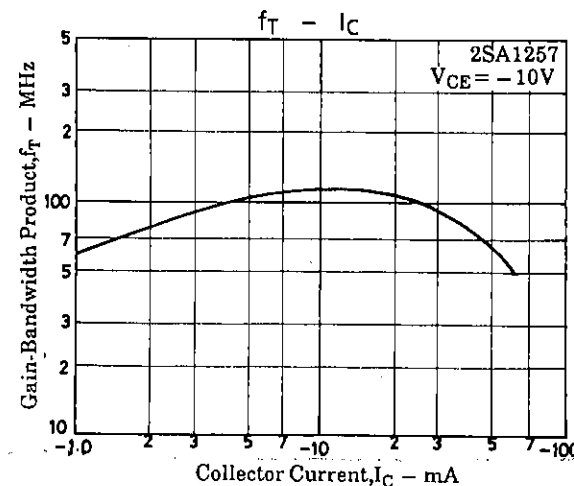
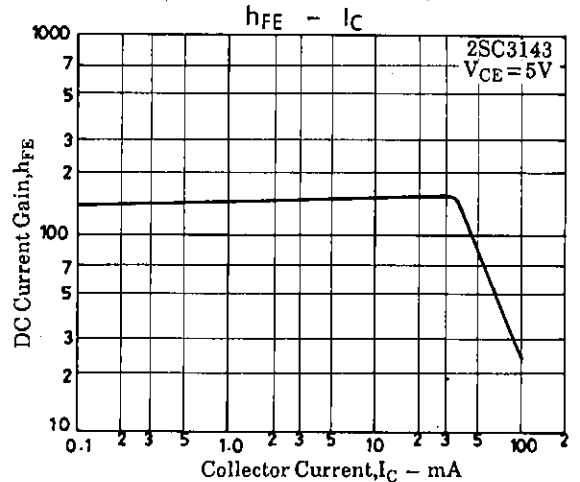
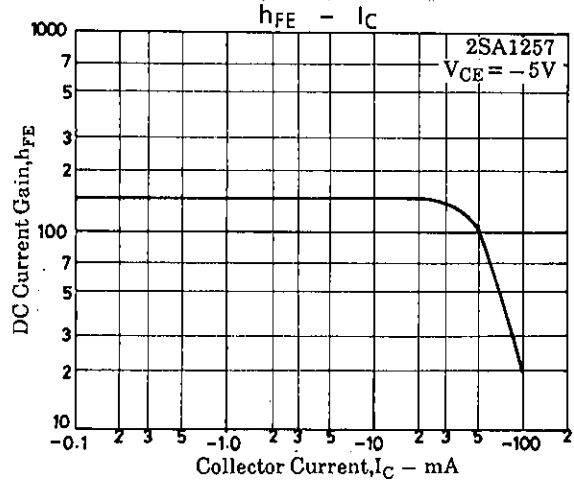
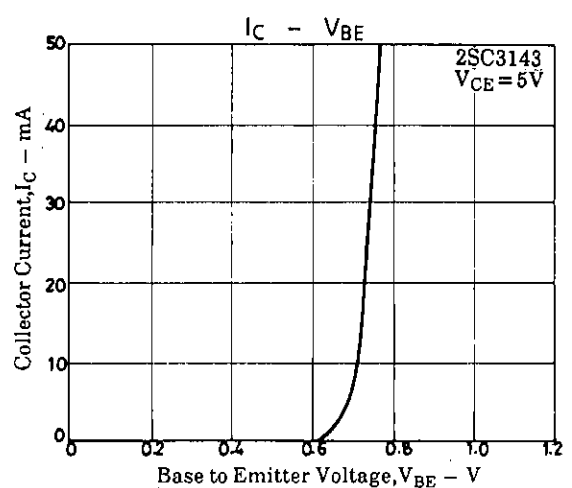
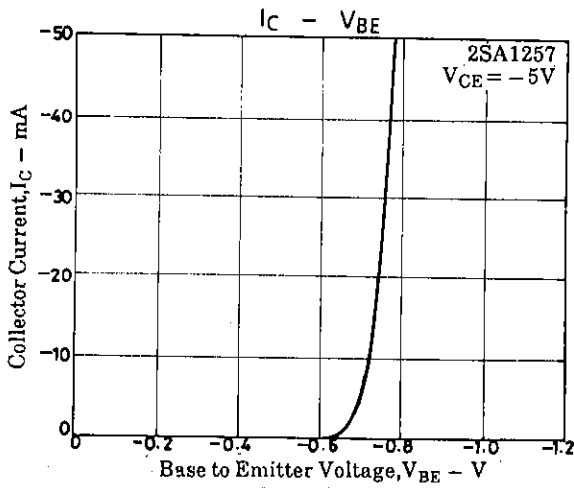
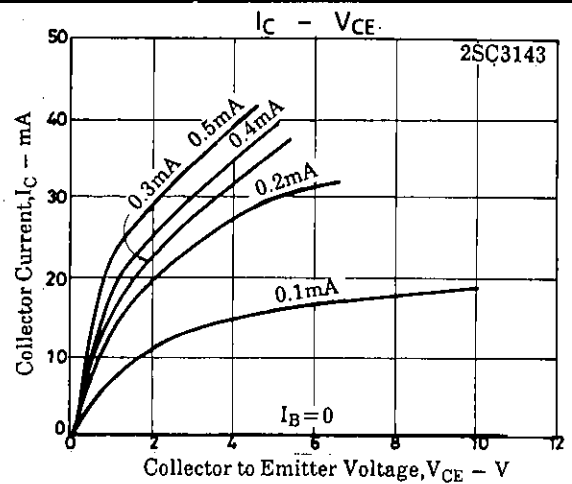
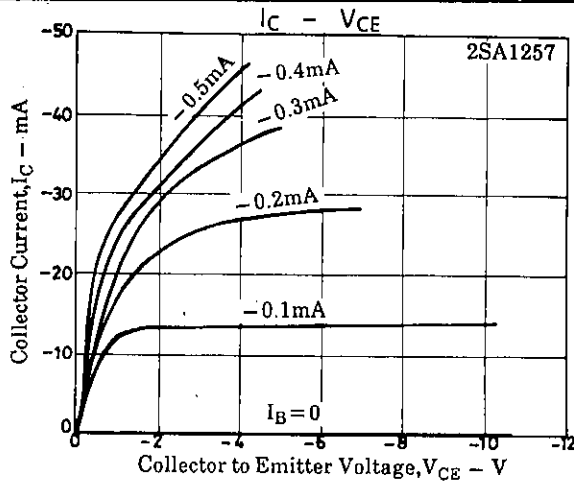
Switching Time Test Circuit



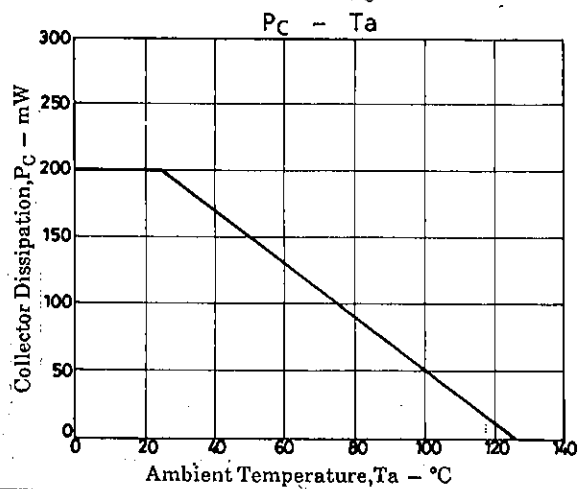
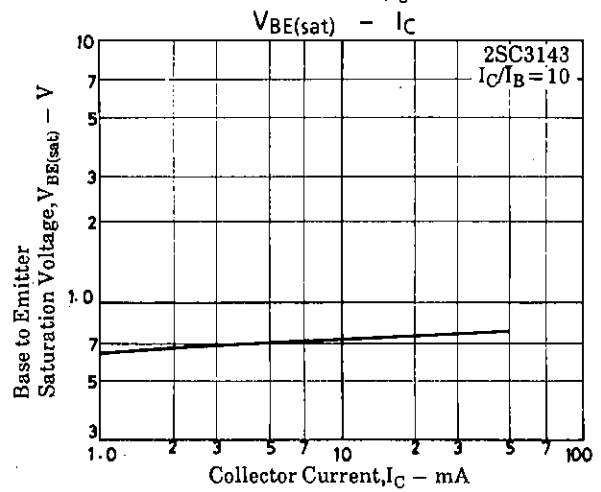
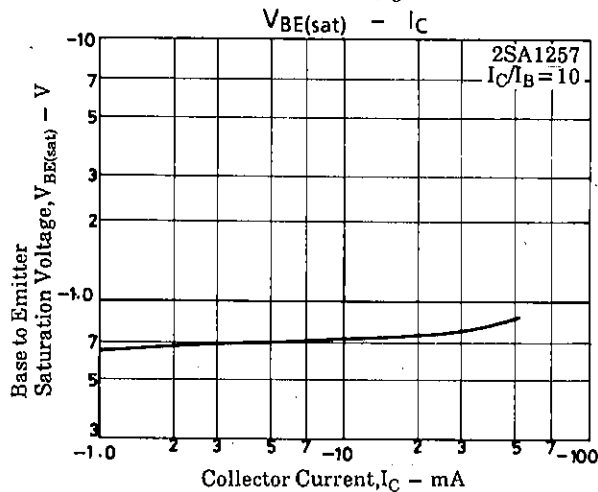
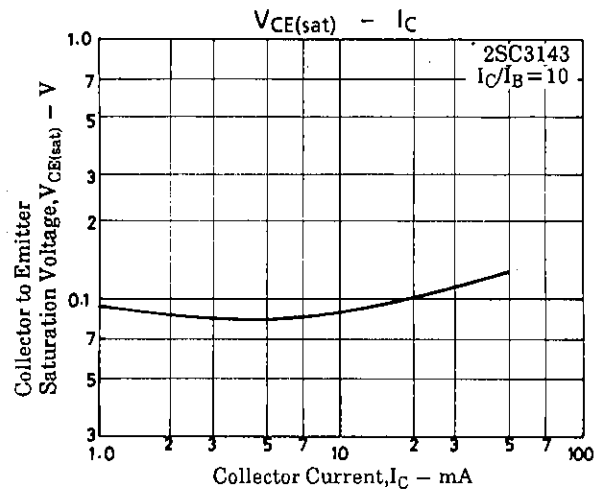
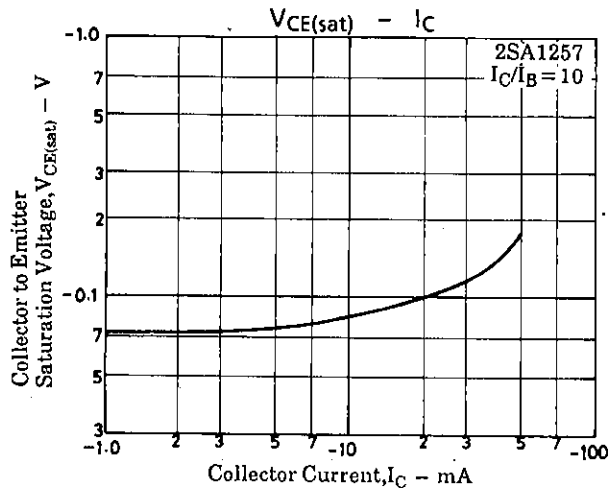
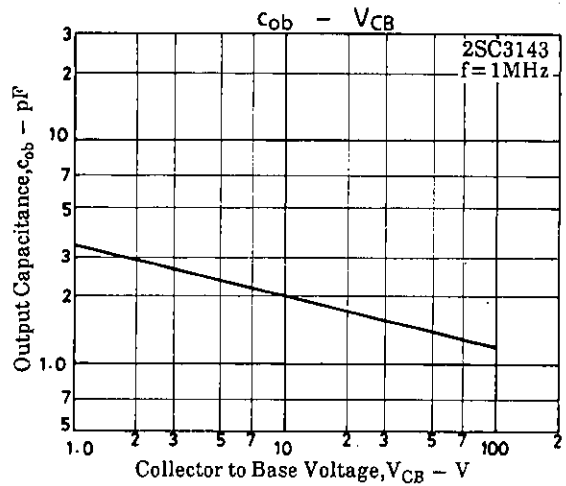
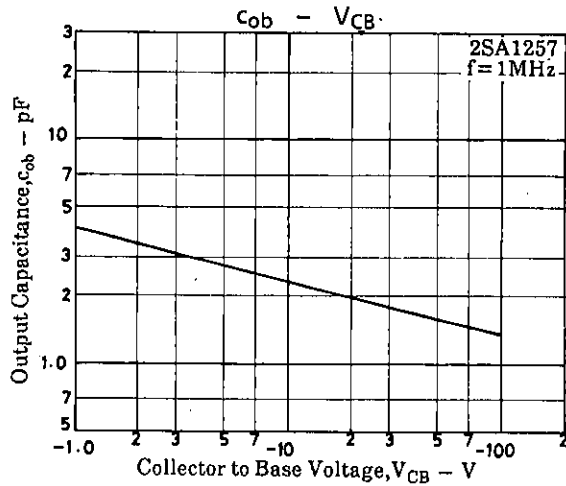
Package Dimensions 2018A (unit : mm)



2SA1257/2SC3143



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