

60V/3A for High-Speed Drivers Applications

- High f_T .
- High switching speed.
- Wide ASO.

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

Collector-to-Base Voltage	V_{CBO}	(-)70	V
Collector-to-Emitter Voltage	V_{CEO}	(-)60	V
Emitter-to-Base Voltage	V_{EBO}	(-)5	V
Collector Current	I_C	(-)3	A
Collector Current (Pulse)	I_{CP}	(-)5	A
Collector Dissipation	P_C	1.75	W
	$T_c = 25^{\circ}\text{C}$	20	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

	min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40V, I_E=0$	$(-)0.1$	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)5V, I_C=0$	$(-)3$	mA
DC Current Gain	h_{FE}	$V_{CE}=(-)2V, I_C=(-)1.5A$	2000	5000
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5V, I_C=(-)1.5A$	200	MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)1.5A, I_B=(-)3\text{mA}$	(-1.0)	$(-)1.5$
			0.9	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)1.5A, I_B=(-)3\text{mA}$	$(-)2.0$	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5\text{mA}, I_E=0$	$(-)70$	V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50\text{mA}, R_{BE}=\infty$	$(-)60$	V
Rise Time	t_{on}	See specified Test Circuit.	0.3	μs
Storage Time	t_{stg}	"	(1.3)1.2	μs
Fall Time	t_f	"	0.2	μs

(For PNP, the polarity is reversed.)

$I_W = 50 \mu A$, Duty Cycle = 1%
 $500I_{B1} = -500I_{B2} = I_C = 1A$

The image shows two circuit diagrams for transistors. The top diagram is for the 2SA1258 transistor, which is a PNP type. It features a base terminal (B), a collector terminal (C), and an emitter terminal (E). The base is connected to a 6kΩ resistor, which is in turn connected to the collector. The emitter is connected to a 200Ω resistor, which is also connected to the collector. A diode is connected between the collector and the emitter, with the cathode towards the collector. The bottom diagram is for the 2SC3144 transistor, which is an NPN type. It has a similar configuration with base (B), collector (C), and emitter (E) terminals. The base is connected to a 6kΩ resistor leading to the collector, and the emitter is connected to a 200Ω resistor also leading to the collector. A diode is connected between the collector and emitter, with the anode towards the collector.

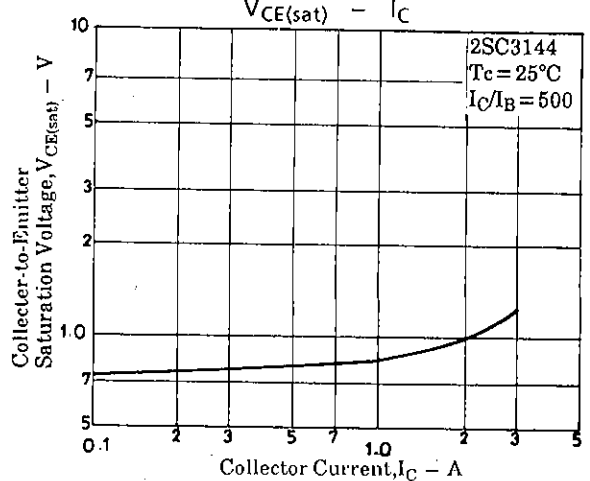
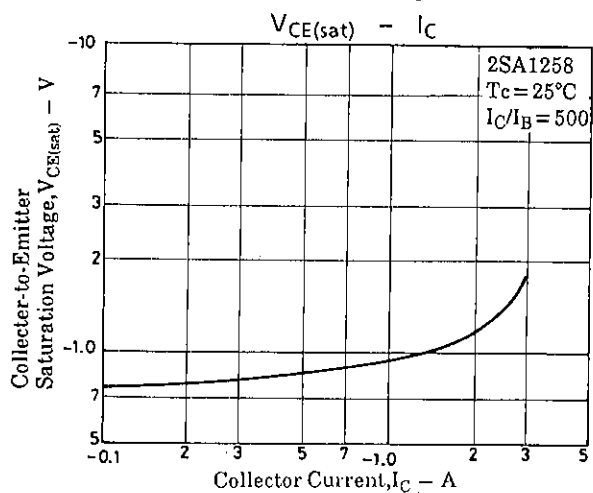
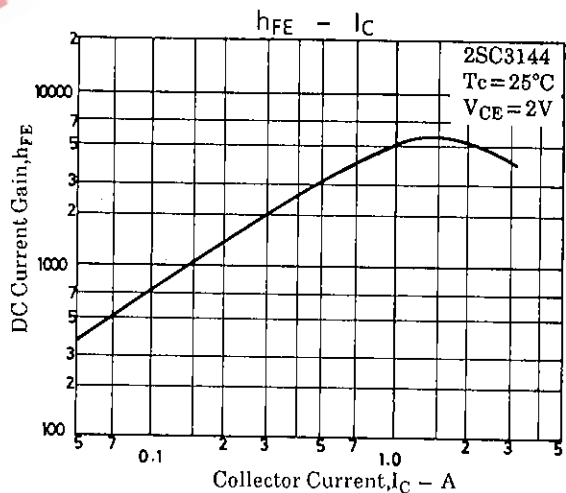
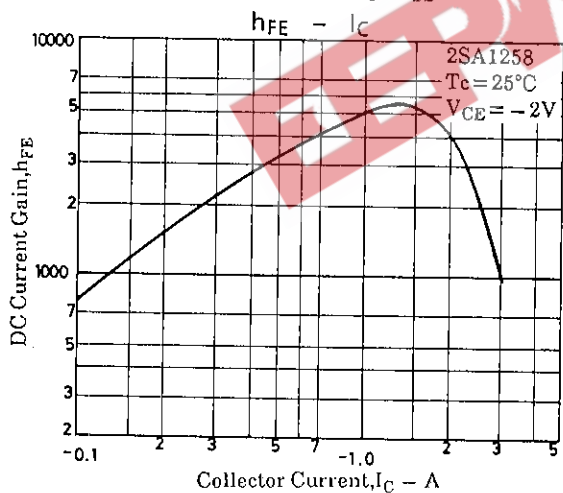
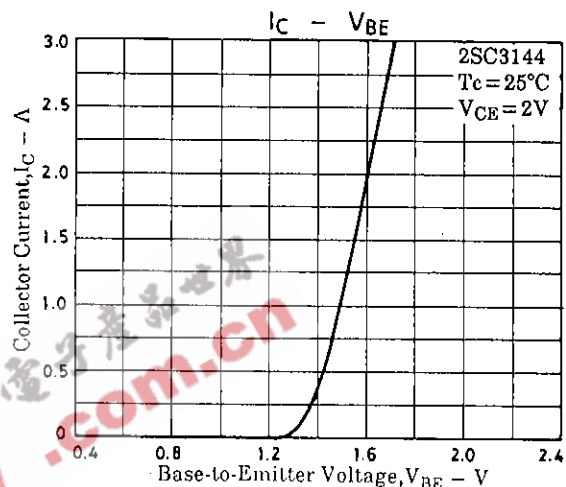
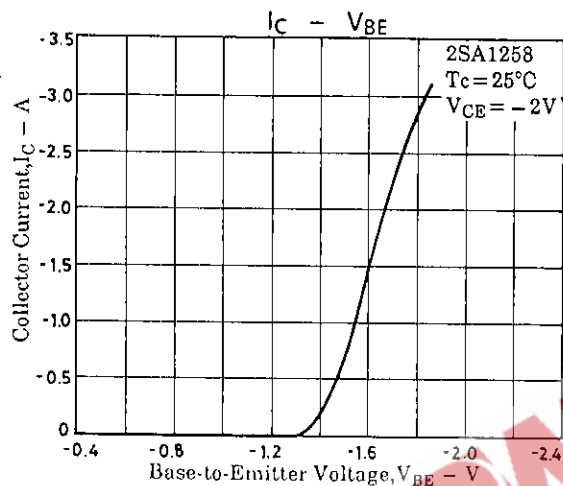
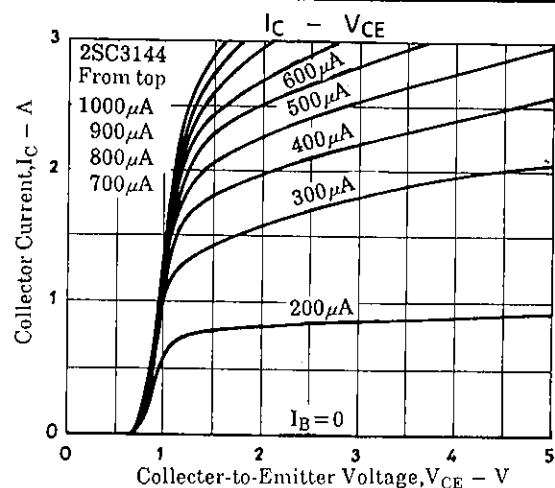
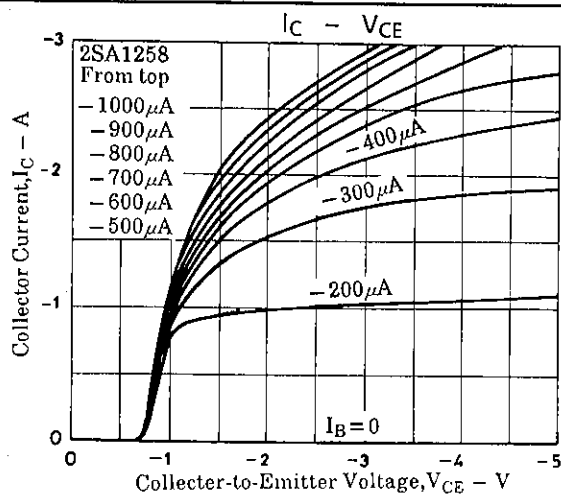
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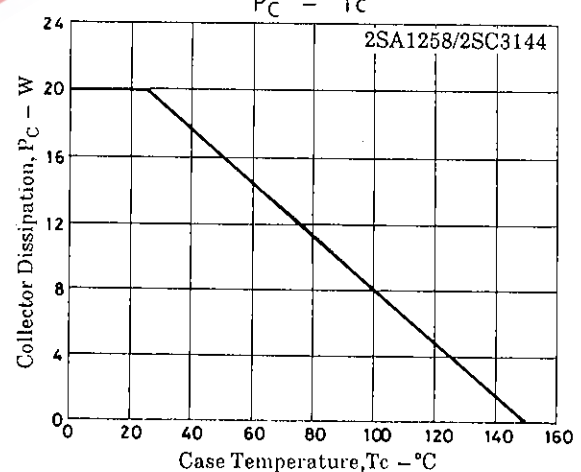
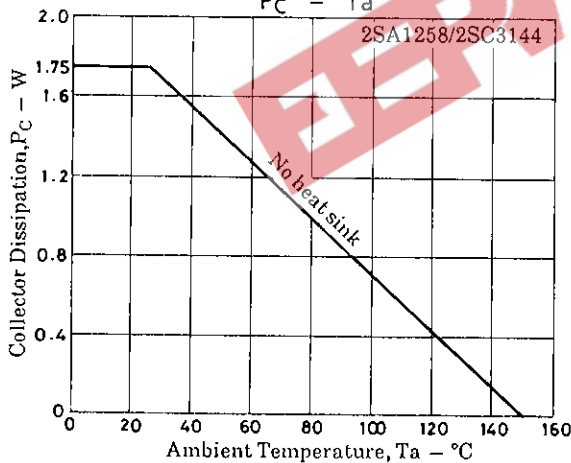
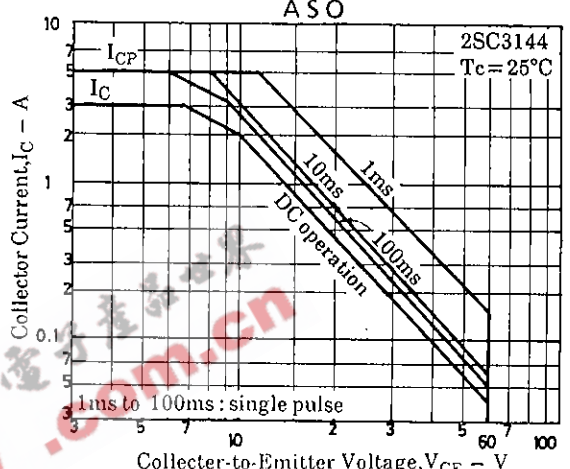
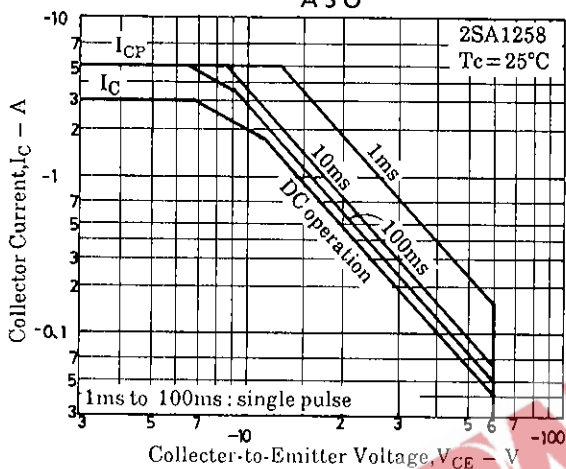
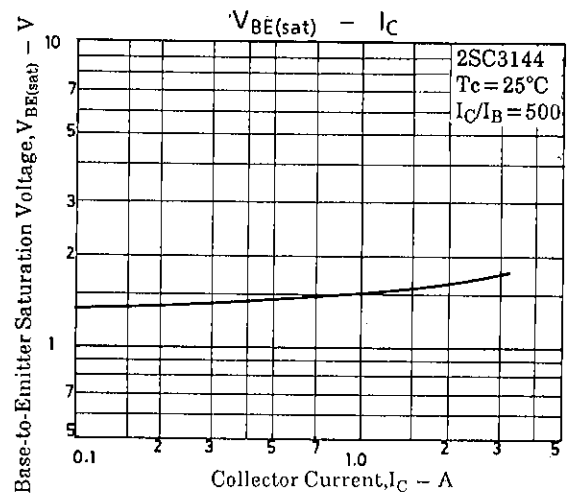
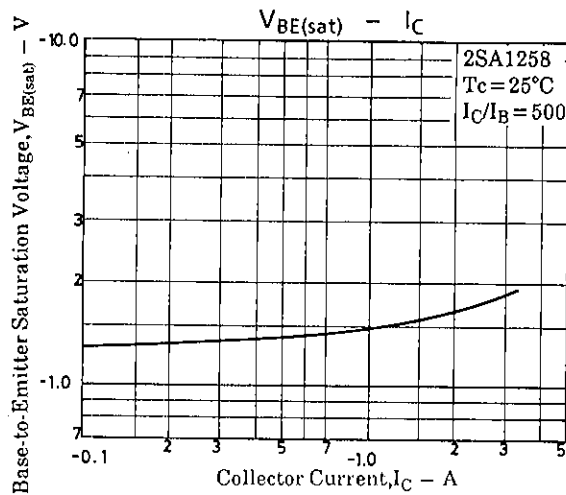
3.6

1: Base
2: Collector
3: Emitter

JEDEC: TO-220AB
EIAJ: SC-46

63095TS/D251MH/3187AT/3085KI/D222KI 8-4742 No.1058-1/3





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