

**2SD1940**

**85V/6A, AF 25 to 30W**  
**Output Applications**

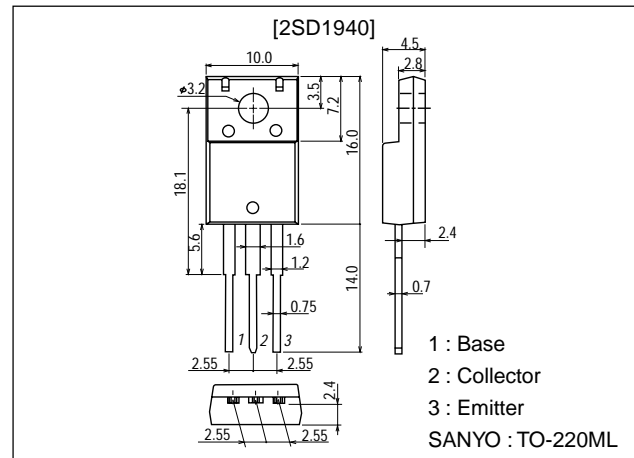
**Features**

- Micaless package facilitating mounting.
- Wide ASO.

**Package Dimensions**

unit:mm

2041A

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		100	V
Collector-to-Emitter Voltage	$V_{CEO}$		85	V
Emitter-to-Base Voltage	$V_{EBO}$		6	V
Collector Current	$I_C$		6	A
Collector Current (Pulse)	$I_{CP}$		10	A
Collector Dissipation	$P_C$	$T_c=25^\circ\text{C}$	25	W
Junction Temperature	$T_J$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

**Electrical Characteristics at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=40\text{V}, I_E=0$			0.1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.1	mA
DC Current Gain	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=1\text{A}$	60*		320*	
	$h_{FE2}$	$V_{CE}=5\text{V}, I_C=3\text{A}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE}=5\text{V}, I_C=1\text{A}$		15		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4\text{A}, I_B=0.4\text{A}$			2.0	V
Base-to-Emitter Voltage	$V_{BE}$	$V_{CE}=5\text{V}, I_C=1\text{A}$			1.5	V
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		110		pF

\* : The 2SD1940 is classified by 1A  $h_{FE}$  as follows :

60	D	120	100	E	200	160	F	320
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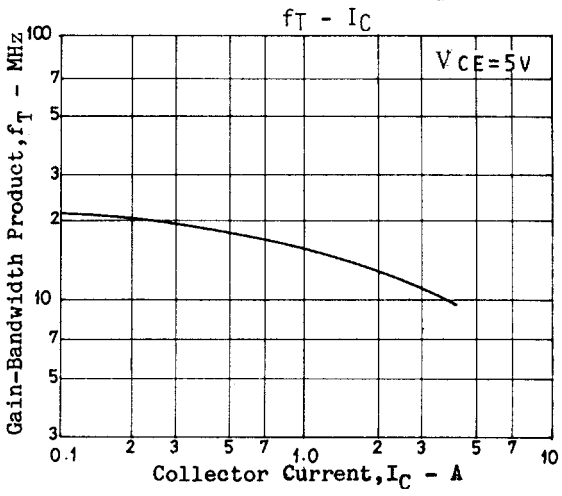
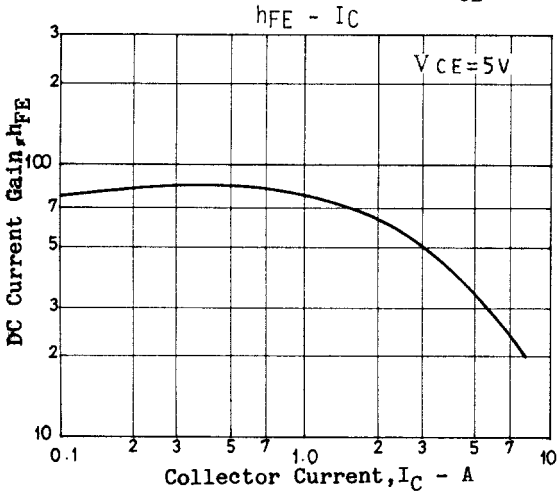
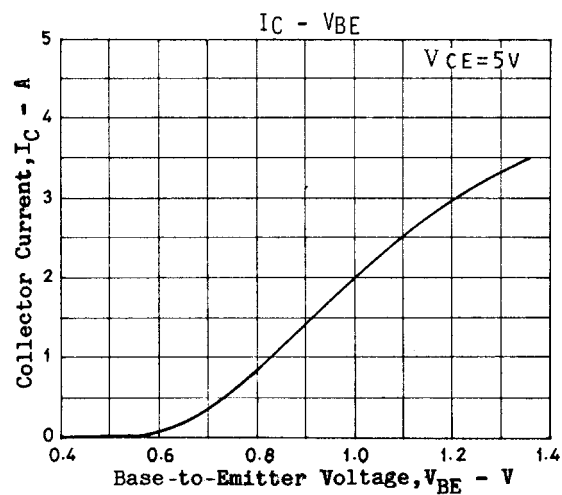
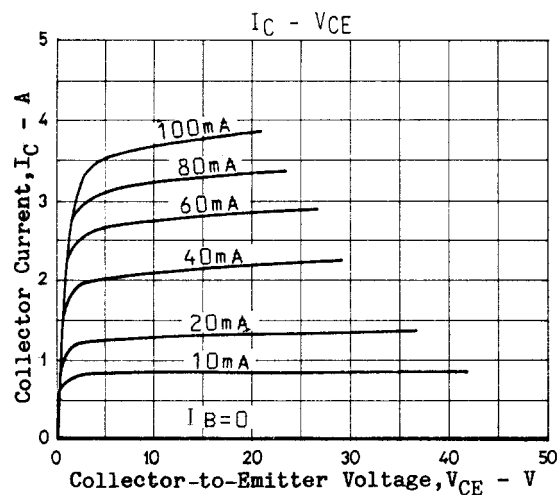
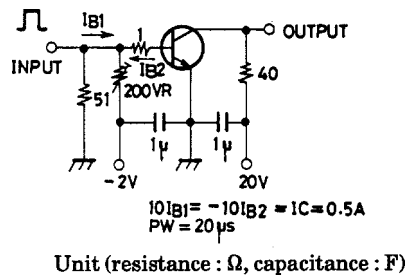
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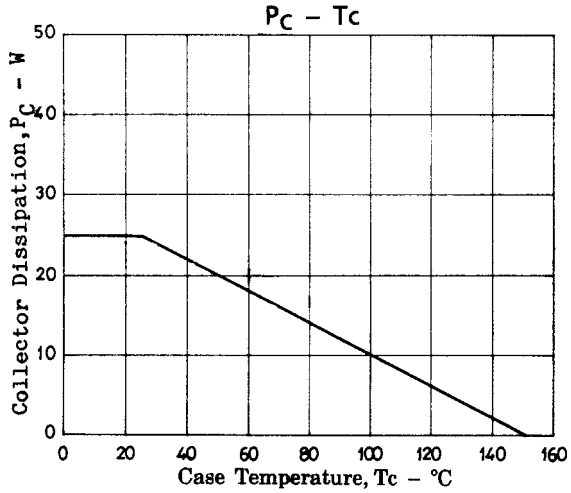
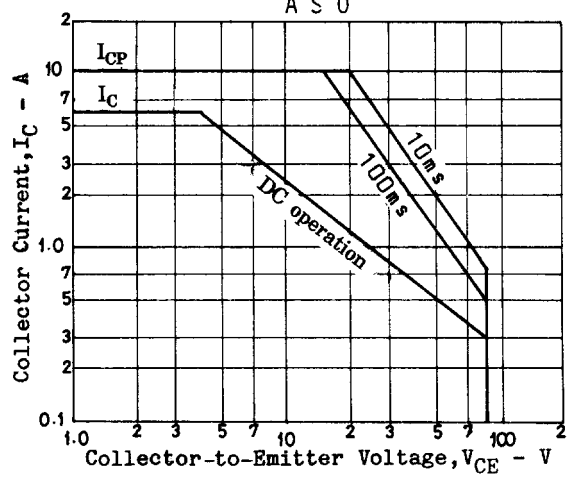
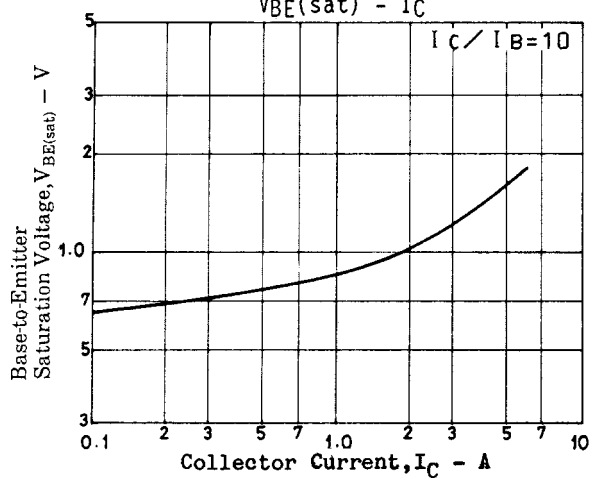
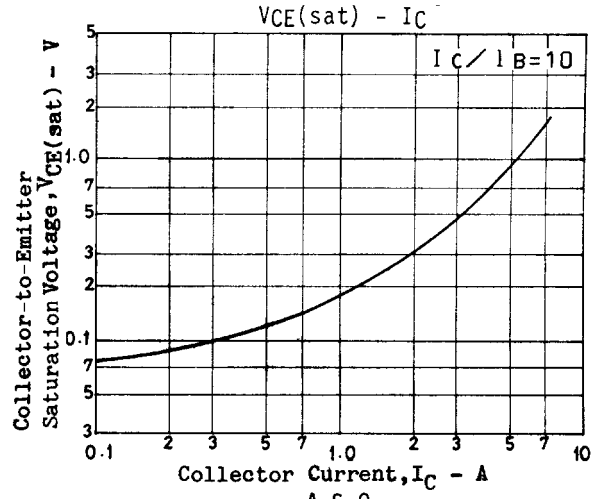
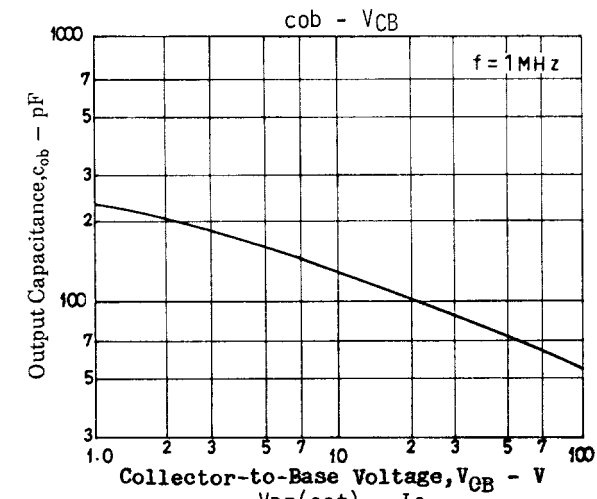
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=5mA, I_E=0$	100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	85			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=5mA, I_C=0$	6			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		0.28		$\mu s$
Fall Time	$t_f$	See specified Test Circuit.		0.50		$\mu s$
Storage Time	$t_{stg}$	See specified Test Circuit.		3.60		$\mu s$

Switching Time Test Circuit



# 2SD1940



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