Ordering number:EN2533

NPN Epitaxial Planar Silicon Transistor

2SD1940

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

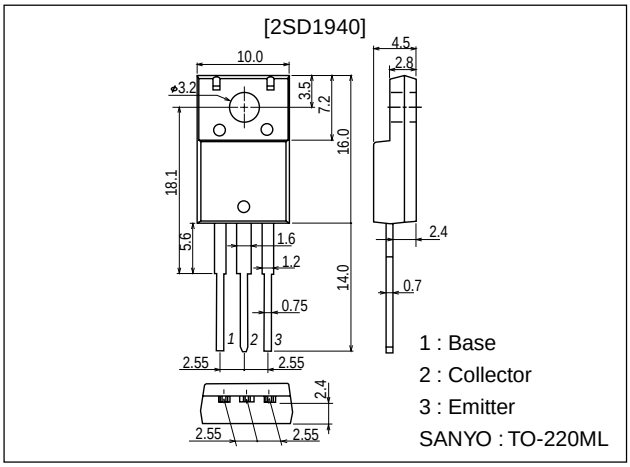
Features

· 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	Tc=25˚C	25	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=40V, I_E=0			0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	mA
DC Current Gain	$h_{FE}1$	V_{CE}=5V, I_C=1A	60*		320*	
	$h_{FE}2$	V_{CE}=5V, I_C=3A	20			
Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=1A		15		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=4A, I_B=0.4A			2.0	V
Base-to-Emitter Voltage	V_{BE}	V_{CE}=5V, I_C=1A			1.5	V
Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz		110		pF

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

60	D	120	100	E	200	160	F	320

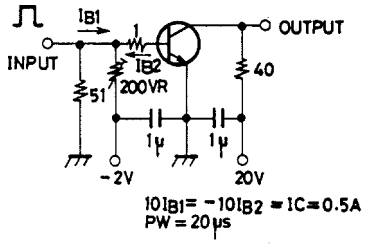
Continued on next page.

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

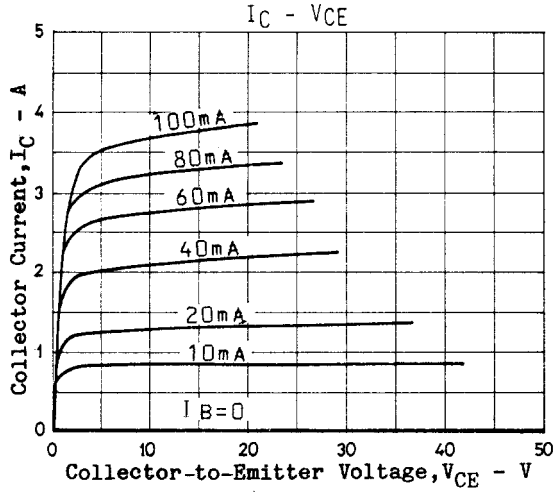
Continued from preceding page.

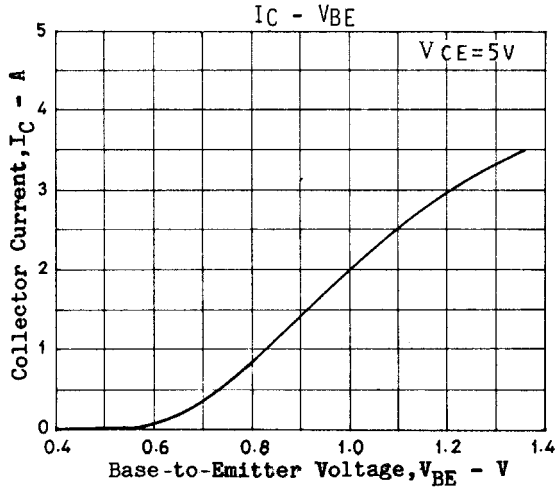
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=5mA, I_E=0	100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=5mA, R_{BE}=∞	85			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=5mA, I_C=0	6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.28		μs
Fall Time	t_f	See specified Test Circuit.		0.50		μs
Storage Time	t_{stg}	See specified Test Circuit.		3.60		μs

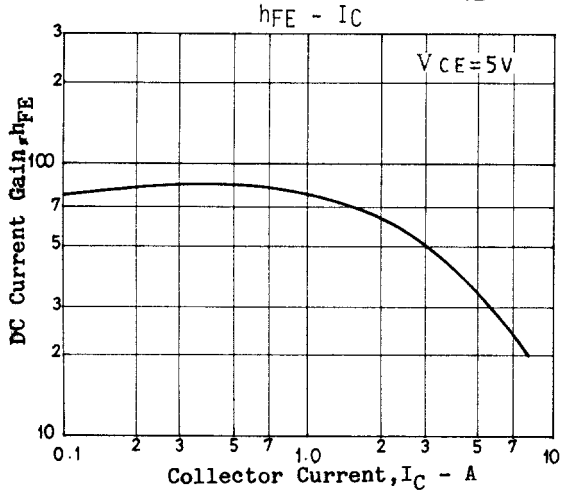
Switching Time Test Circuit

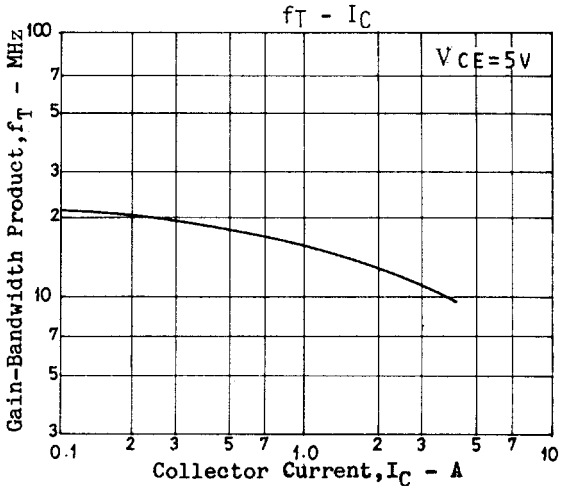


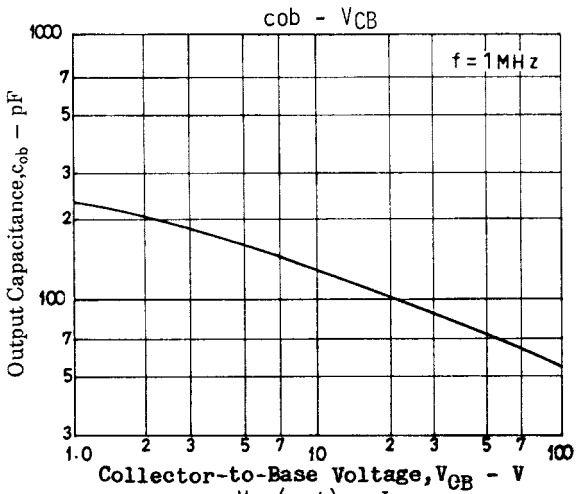
Unit (resistance : Ω, capacitance : F)

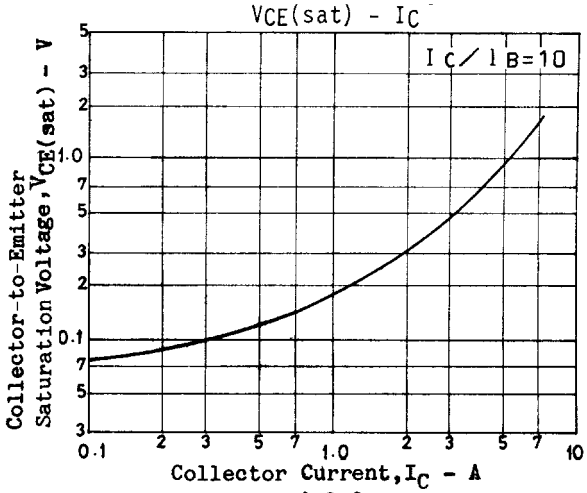


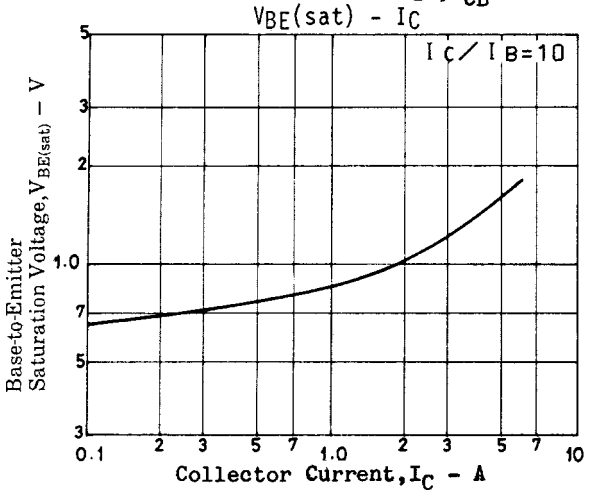


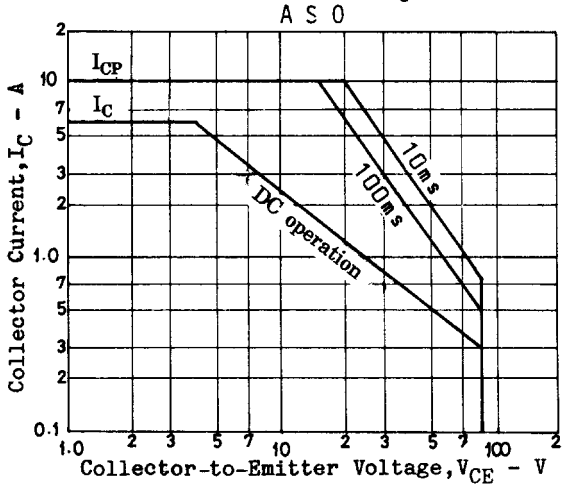


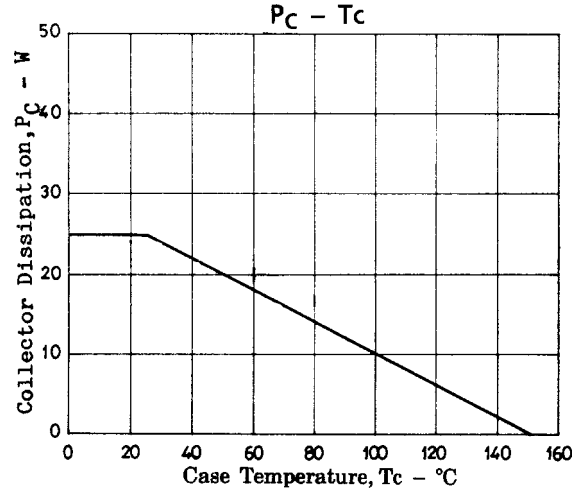



cob - VCB
f=1MHz
Output Capacitance, cob - pF
Collector-to-Base Voltage, VCB - V


VCE(sat) - IC
IC / IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - A


VBE(sat) - IC
IC / IB=10
Base-to-Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - A


ASO
ICP
IC
10ms
100ms
DC operation
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V


PC - Tc
Collector Dissipation, PC - W
Case Temperature, Tc - °C