Ordering number: EN 2533

SANYO

No.2533

2SD1940

NPN Epitaxial Planar Type Silicon Transistor

HIGH-VOLTAGE SWITCHING,
AF25 TO 30W OUTPUT APPLICATIONS

Features

- Micaless package facilitating mounting
- Wide ASO

Absolute Maximum Ratings at Ta=25°C

				unit
Collector-to-Base Voltage	V_{CBO}		100	V
Collector-to-Emitter Voltage	V_{ECO}		85	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		6	A
Peak Collector Current	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

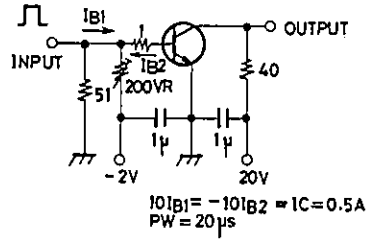
Electrical Characteristics at Ta=25°C

			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}=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
C-E 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
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=5mA, I_E=0	100			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=5mA, R_{BE}=∞	85			V
E-B 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	"		0.50		μs
Storage Time	t_{stg}	"		3.60		μs

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

60 D 120	100 E 200	160 F 320

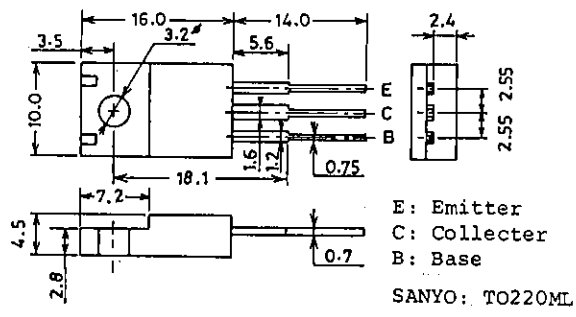
Switching Time Test Circuit



$10I_{B1} = -10I_{B2} = I_C = 0.5A$
PW = 20μs

Unit (resistance: Ω, capacitance: F)

Package Dimensions 2041
(unit: mm)

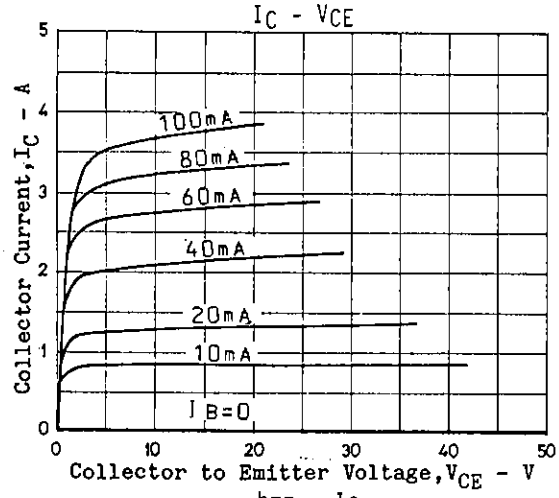


E: Emitter
C: Collecter
B: Base

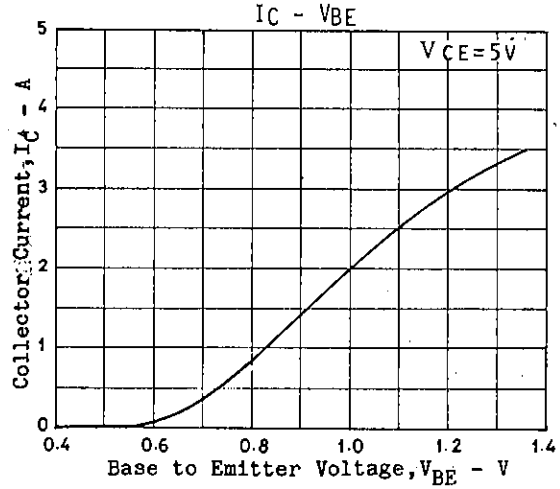
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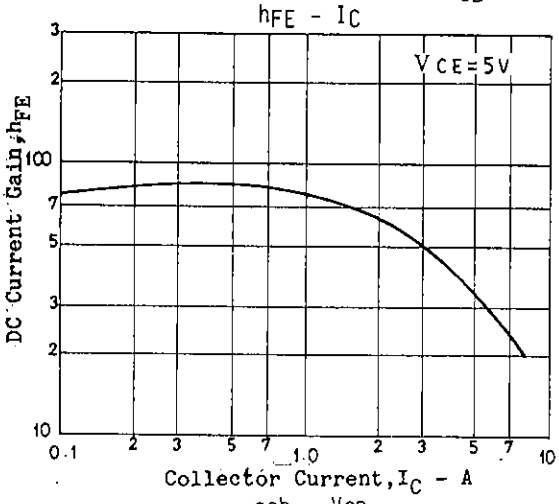
I_C - V_{CE}



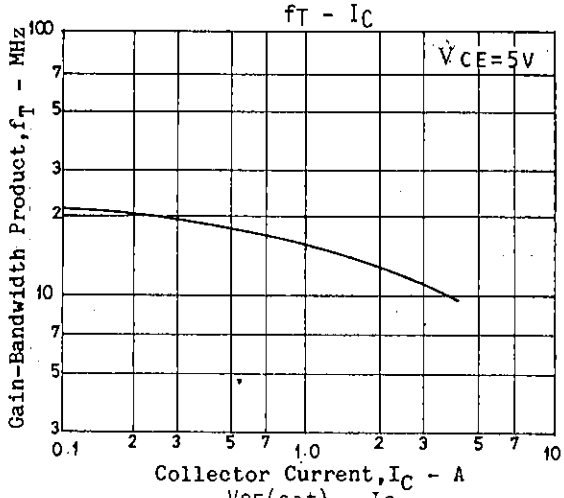
I_C - V_{BE}



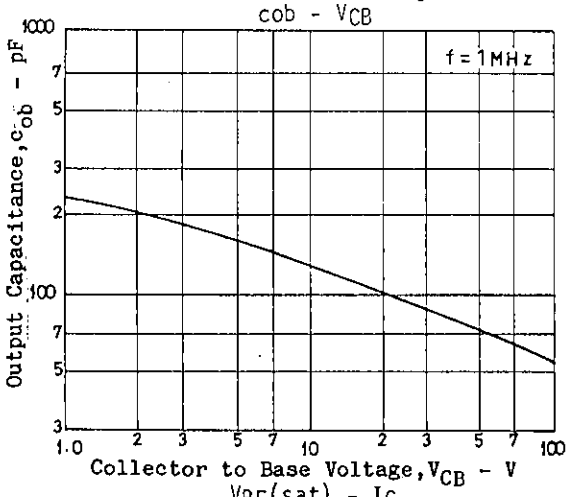
h_{FE} - I_C



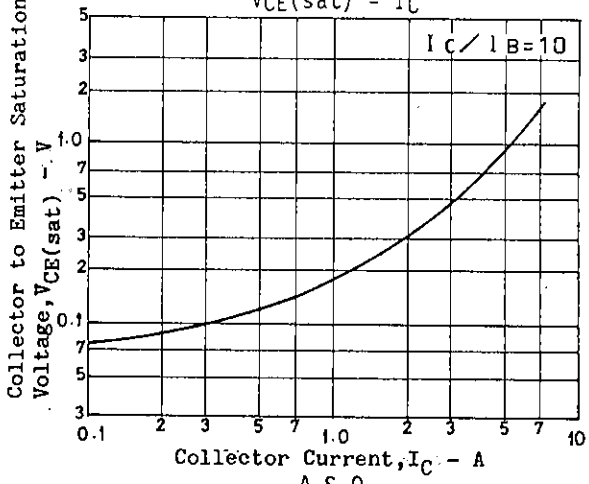
f_T - I_C



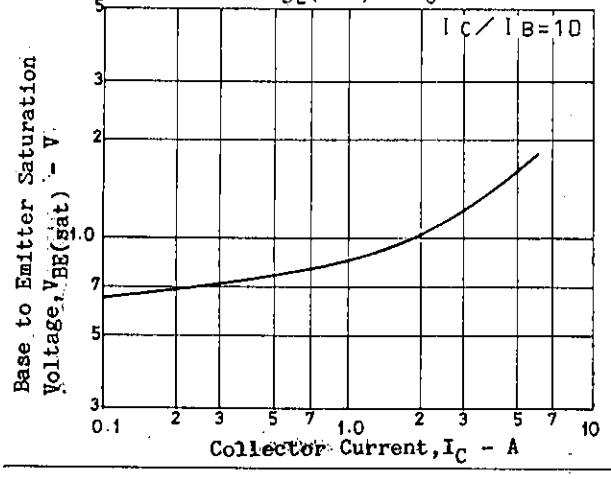
cob - V_{CB}



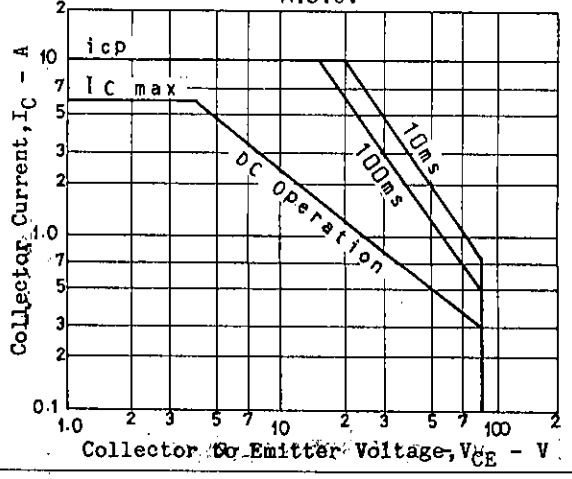
$V_{CE(sat)}$ - I_C

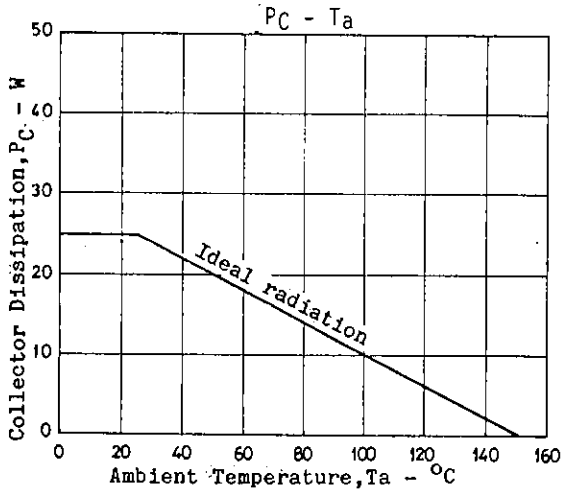


$V_{BE(sat)}$ - I_C



A.S.O.





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