Ordering number:EN1781A

NPN Epitaxial Planar Silicon Transistor

2SD1628

High-Current Switching Applications

Applications

· Strobe DC-DC converters, relay drivers, hammer drivers, lamp drivers, motor drovers.

Features

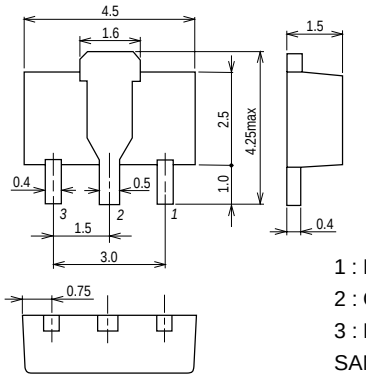
· Low saturation voltage.
· High h_{FE}.
· Large current capacity.
· Very small size making it easy to provide high-density, small-sized hybrid IC's.

Package Dimensions

unit:mm

2038A

[2SD1628]



1 : Base
2 : Collector
3 : Emitter
SANYO : PCP
(Bottom view)

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		60	V
Collector-to-Emitter Voltage	V_{CEO}		20	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		5	A
Collector Current (Pulse)	I_{CP}		8	A
Collector Dissipation	P_C		500	mW
		Mounted on ceramic board (250mm²×0.8mm)	1.5	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}=50V, I_E=0			100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			100	nA
DC Current Gain	$h_{FE}1$	V_{CE}=2V, I_C=0.5A	120*		560*	
	$h_{FE}2$	V_{CE}=2V, I_C=3A	95			
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=50mA		120		MHz
Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz		45		pF

* The 2SD1628 is classified by 0.5A h_{FE} as follows :

120	E	200	160	F	320	280	G	560

Marking : DK

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

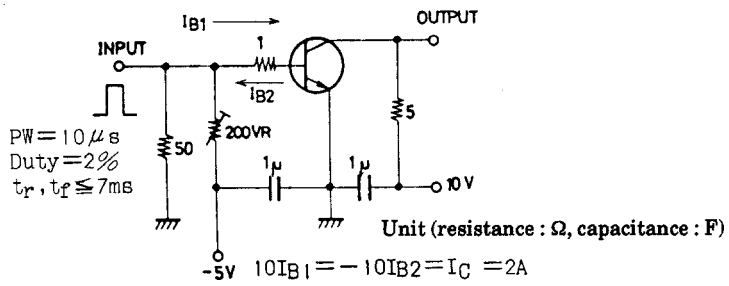
■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges,or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

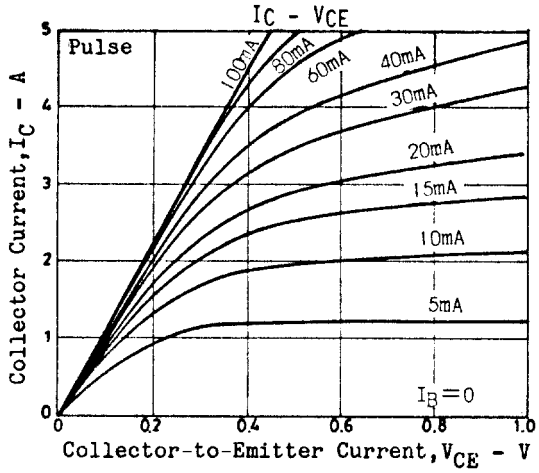
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

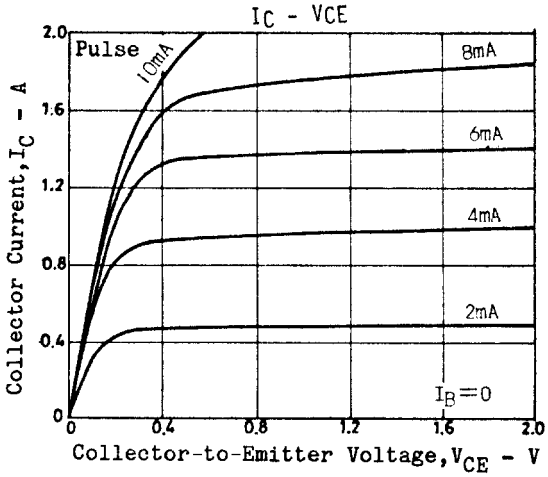
Continued from preceding page.

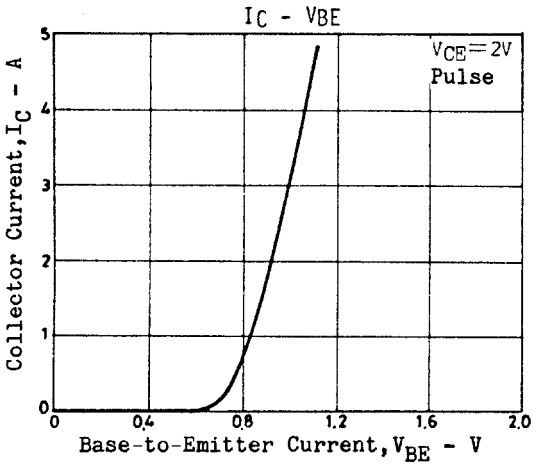
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=3A, I_B=60mA			500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=3A, I_B=60mA			1.5	V
Turn-ON Time	t_{on}	See specified Test Circuit.		30		ns
Strage Time	t_{stg}	See specified Test Circuit.		300		ns
Fall Time	t_f	See specified Test Circuit.		40		ns

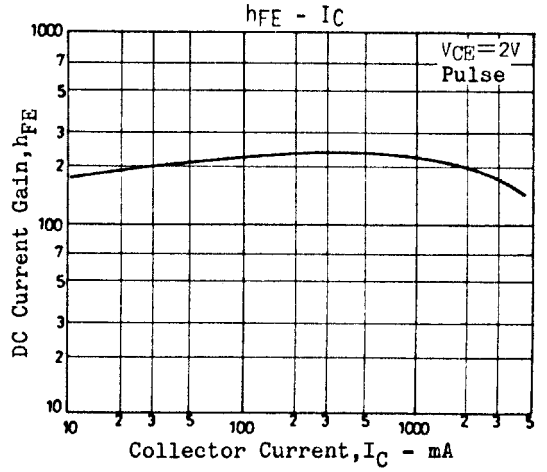
Switching Time Test Circuit

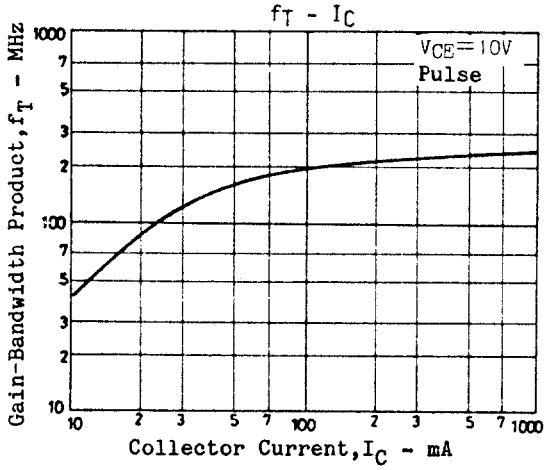


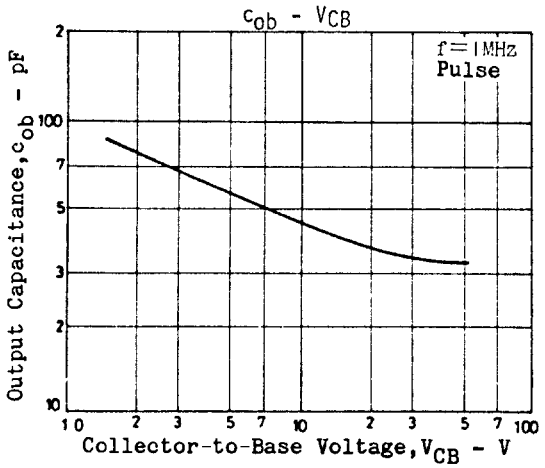


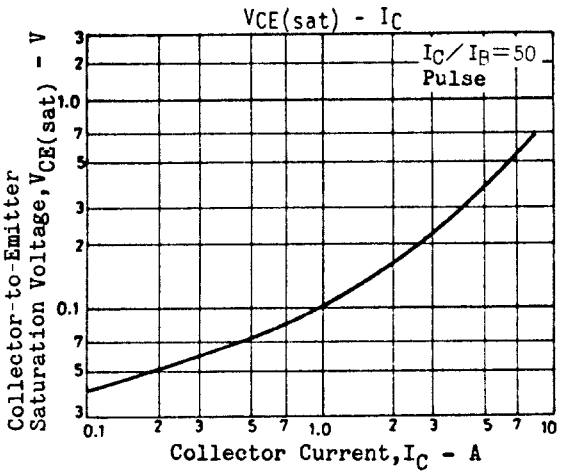


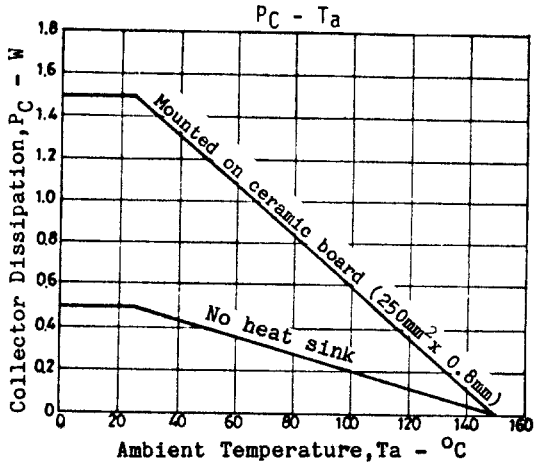


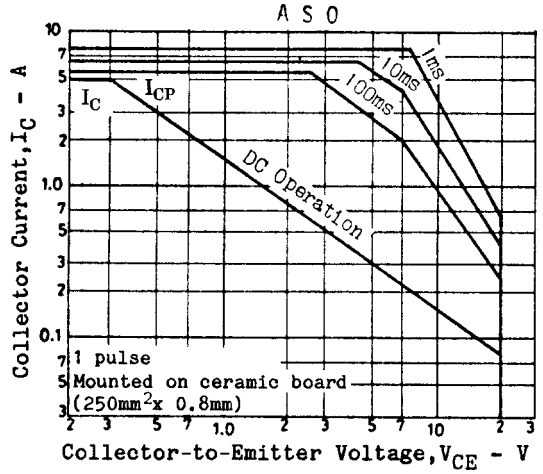



fT - IC
VCE=10V
Pulse
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA


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


VCE(sat) - IC
IC / IB=50
Pulse
Collector-to-Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - A


PC - Ta
Mounted on ceramic board (250mm2 x 0.8mm)
No heat sink
Collector Dissipation, PC - W
Ambient Temperature, Ta - °C


A S O
IC
ICP
1ms
10ms
100ms
DC Operation
1 pulse
Mounted on ceramic board
(250mm2 x 0.8mm)
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V

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