Ordering number : ENA0475

SANYO Semiconductors
DATA SHEET

2SD2721 — NPN Triple Diffused Planar Silicon Transistor
Driver Applications

Features

- Large current capacitance.
- Wide ASO and high durability against breakdown.
- Adoption of MBIT process.
- Attachment workability is good by Mica-less package.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		160	V
Collector-to-Emitter Voltage	V_{CEO}		120	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		12	A
Collector Current (Pulse)	I_{CP}		20	A
Collector Dissipation	P_C		3.0	W
		Tc=25°C	75	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}=160V, I_E=0A			0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0A			0.1	mA
DC Current Gain	$h_{FE}1$	V_{CE}=5V, I_C=1A	100		200	
	$h_{FE}2$	V_{CE}=5V, I_C=5A	35			
Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=1A		15		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		140		pF

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

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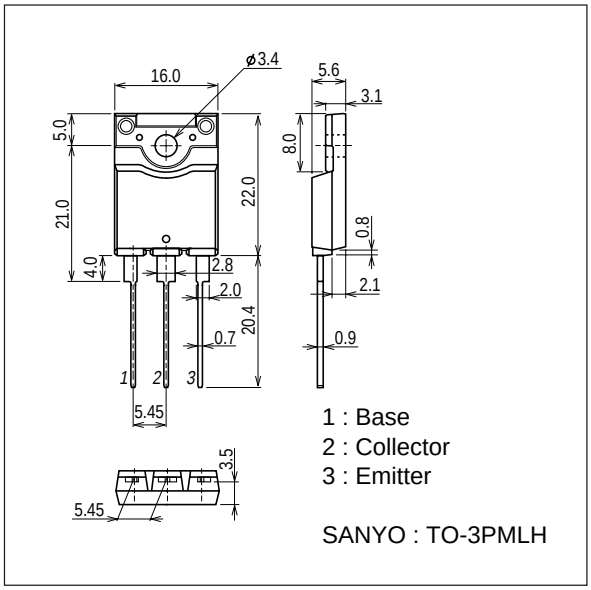
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Base-to-Emitterr Voltage	V_{BE}	V_{CE}=5V, I_C=5A			1.5	V
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=5A, I_B=0.5A		0.2	2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=5mA, I_E=0A	160			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=50mA, R_{BE}=∞	120			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=5mA, I_C=0A	6			V
Turn-On Time	t_{on}	See specified Test Circuit.		0.56		μs
Storage Time	t_{stg}	See specified Test Circuit.		3.3		μs
Fall Time	t_f	See specified Test Circuit.		0.4		μs

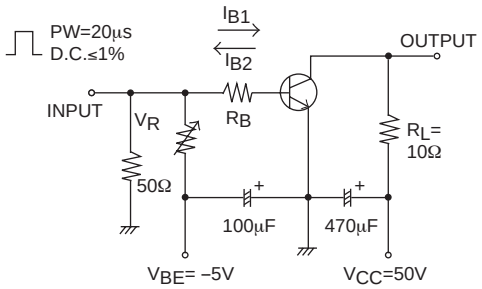
Package Dimensions

unit : mm (typ)

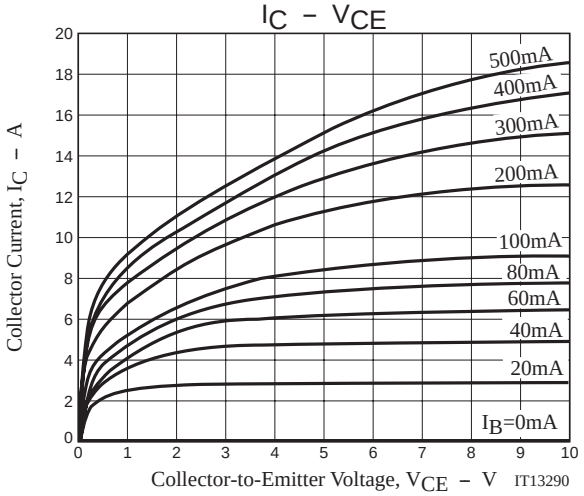
7504-001

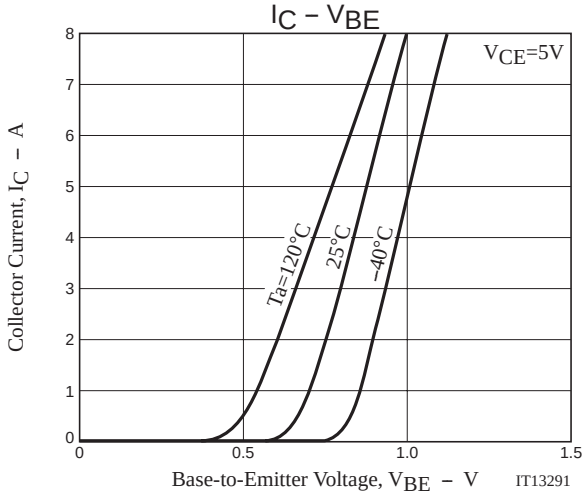


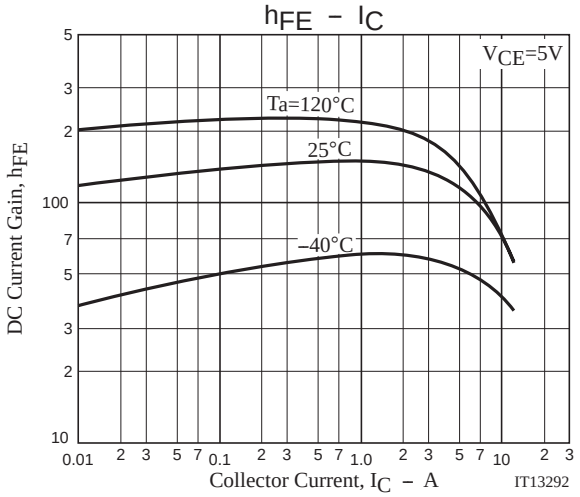
Switching Time Test Circuit

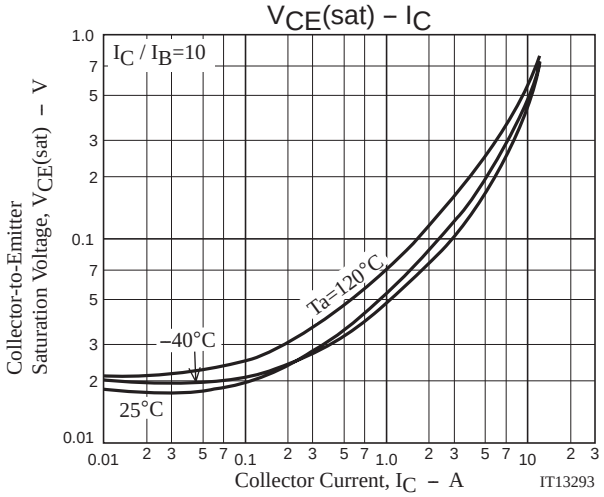


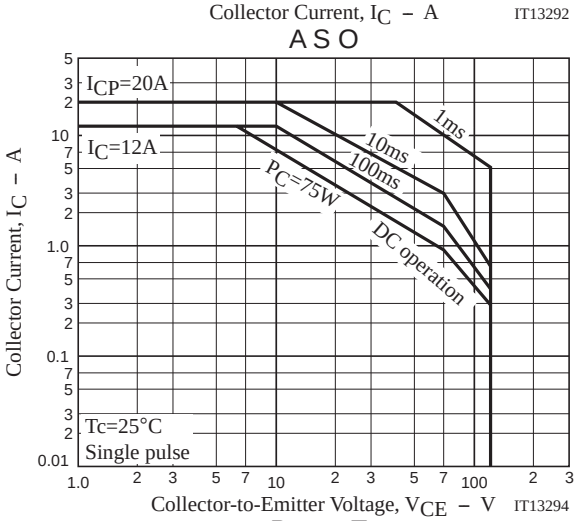
I_C=10I_{B1}= –10I_{B2}=5A

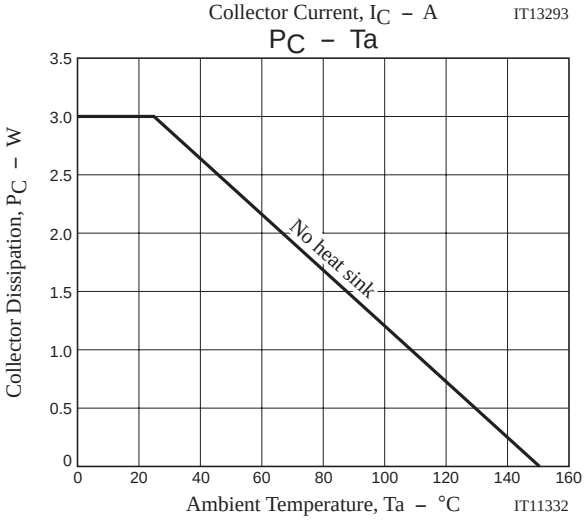


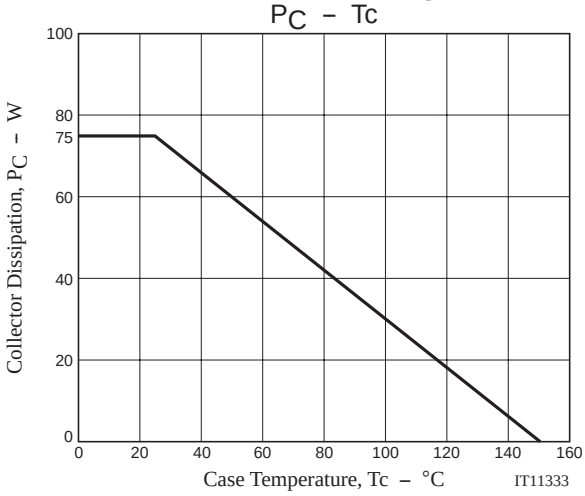



hFE – IC
VCE=5V
Ta=120°C
25°C
–40°C
DC Current Gain, hFE
Collector Current, IC – A
IT13292


VCE(sat) – IC
IC / IB=10
Ta=120°C
–40°C
25°C
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – A
IT13293


A S O
ICP=20A
IC=12A
1ms
10ms
100ms
PC=75W
DC operation
Tc=25°C
Single pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
IT13294


PC – Ta
No heat sink
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C
IT11332


PC – Tc
Collector Dissipation, PC – W
Case Temperature, Tc – °C
IT11333