Ordering number: EN 2235D

SANYO

No.2235D

2SC3992

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

- High breakdown voltage, high reliability.
- Fast switching speed.
- Wide ASO.
- Adoption of MBIT process.

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector-to-Base Voltage	V_{CBO}		1100	V
Collector-to-Emitter Voltage	V_{CEO}		800	V
Emitter-to-Base Voltage	V_{EBO}		7	V
Collector Current	I_C		12	A
Collector Current (Pulse)	I_{CP}	PW≦300μs, duty cycle≦10%	30	A
Base Current	I_B		6	A
Collector Dissipation	P_C	Tc = 25°C	200	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} = 800V, I_E = 0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0			10	μA
DC Current Gain	$h_{FE}(1)$	V_{CE} = 5V, I_C = 0.8A	10※		40※	
	$h_{FE}(2)$	V_{CE} = 5V, I_C = 4A	8			
Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_C = 0.8A		15		MHz
Output Capacitance	Cob	V_{CB} = 10V, f = 1MHz		215		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = 6A, I_B = 1.2A			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = 6A, I_B = 1.2A			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = 1mA, I_E = 0	1100			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = 5mA, R_{BE} = ∞	800			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1mA, I_C = 0	7			V

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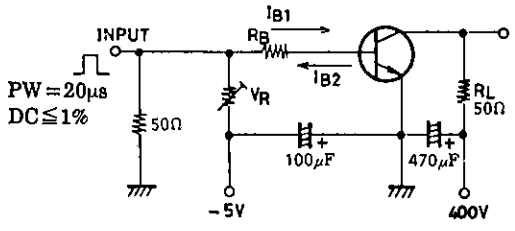
※ : The 2SC3992 is classified by 0.8A h_{FE} as follows :

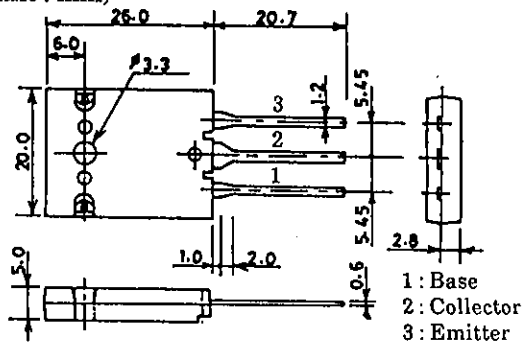
10	K	20	15	L	30	20	M	40

Switching Time Test Circuit



Package Dimensions 2048B

(unit : mm)



1 : Base
2 : Collector
3 : Emitter

SANYO: TO-3PBL

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			min	typ	max	unit
C-E Sustain Voltage	$V_{CEX(sus)}$	I_C=6A,I_{B1}=−I_{B2}=1.2A L=500μH,clamped	800			V
Rise Time	t_{on}	V_{CC}=400V,			0.5	μs
Storage Time	t_{stg}	5I_{B1}=−2.5I_{B2}=I_C=8A,			3.0	μs
Fall Time	t_f	R_L=50Ω			0.3	μs