

2SC3752

NPN Triple Diffused Planar Silicon Transistor

800V/3A Switching Regulator Applications

Features

- High breakdown voltage and high reliability
- Fast switching speed
- Wide ASO
- Adoption of MBIT process
- Micaless package facilitating mounting

Absolute Maximum Ratings at Ta=25°C

			unit
Collector-to-Base Voltage	V _{CB0}	1100	V
Collector-to-Emitter Voltage	V _{CEO}	800	V
Emitter-to-Base Voltage	V _{EBO}	7	V
Collector Current	I _C	3	A
Collector Current (Pulse)	I _{CP}	10	A
Base Current	I _B	1.5	A
Collector Dissipation	P _C	30	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Tc=25°C

PW ≤ 300μs, Duty cycle ≤ 10%

Electrical Characteristics at Ta=25°C

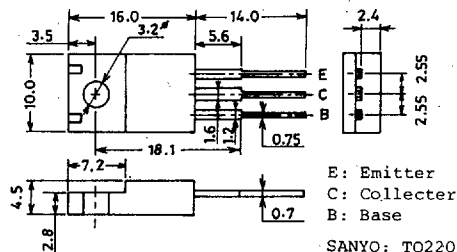
			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} =800V, I _E =0			10	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =5V, I _C =0			10	μA
DC Current Gain	h _{FE} (1)	V _{CE} =5V, I _C =0.2A	10*		40*	
	h _{FE} (2)	V _{CE} =5V, I _C =1A	8			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =0.2A		15		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		60		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =1.5A, I _B =0.3A		2.0		V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =1.5A, I _B =0.3A		1.5		V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =1mA, I _E =0	1100			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =5mA, R _{BE} =∞	800			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =1mA, I _C =0	7			V

Continued on next page.

*: The h_{FE}(1) of the 2SC3752 is classified as follows. When specifying the h_{FE}(1) rank, specify two ranks or more in principle.

10	K	20	15	L	30	20	M	40
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Package Dimensions 2041 (unit:mm)



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Collector-to-Emitter Sustain Voltage

$V_{CEX(sus)}$

$I_C = 1.5A,$
 $I_{B1} = -I_{B2} = 0.3A,$
 $L = 2mH, \text{clamped}$

min typ max unit
 800 V

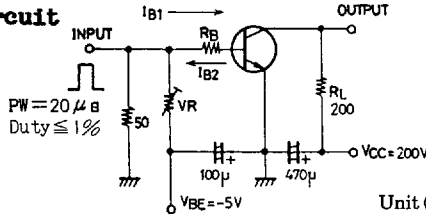
Turn-on Time
 Storage Time
 Fall Time

t_{on}
 t_{stg}
 t_f

$V_{CC} = 400V,$
 $5I_{B1} = -2.5I_{B2} = I_C = 2A,$
 $R_L = 200\Omega$

0.5 μs
 3.0 μs
 0.3 μs

Switching Time Test Circuit



Unit (Resistance : Ω , Capacitance : F)

