

**2SC3459**

NPN Triple Diffused Planar Silicon Transistor

800V/4.5A Switching Regulator Applications

**SANYO**

No.1591C

**Features**

- . High breakdown voltage and high reliability.
- . Fast switching speed ( $t_f$ : 0.1 $\mu$ s typ.)
- . 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	$I_C$	4.5	A
Collector Current (Pulse)	$I_{CP}$	15	A
Base Current	$I_B$	2	A
Collector Dissipation	$P_C$	90	W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55 to +150	°C

$PW \leq 300\mu s, Duty\ Cycle \leq 10\%$   
 $T_C = 25^\circ C$

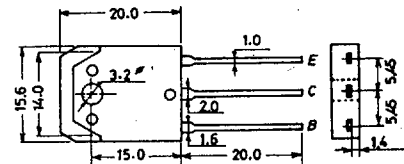
**Electrical Characteristics at Ta=25°C**

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=800V, I_E=0$			10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			10	$\mu A$
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5V, I_C=0.3A$	10*		40*	
	$h_{FE}(2)$	$V_{CE}=5V, I_C=1.5A$	8			
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=0.3A$		15		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		90		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=2A, I_B=0.4A$			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=2A, I_B=0.4A$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	1100			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	800			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=2A, I_B=-I_{B2}=0.4A, L=2mH, C_{clamped}$	800			V
Turn-ON Time	$t_{on}$	$V_{CC}=400V,$ $5I_{B2}=-2.5I_{B2}=I_C=3A,$ $R_L=133\Omega$			0.5	$\mu s$
Storage Time	$t_{stg}$				3.0	$\mu s$
Fall Time	$t_f$				0.3	$\mu s$

\*: The  $h_{FE}(1)$  of the 2SC3459 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 2022**  
(unit:mm)

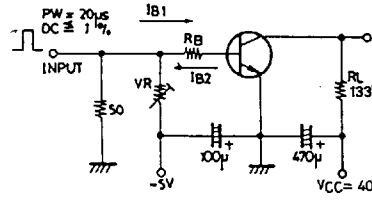


E: Emitter  
 C: Collector  
 B: Base  
 SANYO: T03PB

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Switching Time Test Circuit



Unit (Resistance :  $\Omega$ , Capacitance : F)

