

2SC3150

NPN Triple Diffused Planar Silicon Transistor

800V/3A Switching Regulator Applications

Features

- High breakdown voltage ($V_{CBO} \geq 900V$)
- High speed switching.
- Wide ASO.

Absolute Maximum Ratings at $T_a=25^\circ C$

			unit
Collector-to-Base Voltage	V_{CBO}	900	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}	$PW \leq 300\mu s,$ $Duty Cycle \leq 10\%$	10 A
Base Current	I_B	1.5	A
Collector Dissipation	P_C	$T_C=25^\circ C$	50 W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

Electrical Characteristics at $T_a=25^\circ C$

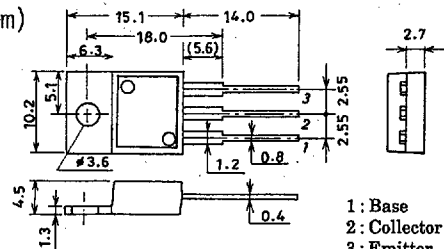
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=800V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			10	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5V, I_C=0.2A$	10*		40*	
	$h_{FE}(2)$	$V_{CE}=5V, I_C=1A$	8			
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=0.2A$		15		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		60		pF
C-E Saturation Voltage	$V_{CE}(sat)$	$I_C=1.5A, I_B=0.3A$			2.0	V
B-E Saturation Voltage	$V_{BE}(sat)$	$I_C=1.5A, I_B=0.3A$			1.5	V
C-B Breakdown Voltage	$V(BR)CBO$	$I_C=1mA, I_E=0$	900			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	$V_{CEO}(sus)$	$I_C=3A, L=500\mu H, I_B=1A$	800			V
	$V_{CEX}(sus)(1)$	$I_C=1A, I_{B1}=0.2A, I_{B2}=-0.2A, L=2mH, clamped$	800			V
	$V_{CEX}(sus)(2)$	$I_C=0.5A, I_{B1}=0.1A, I_{B2}=-0.1A, L=5mH, clamped$	900			V
Turn-ON Time	t_{on}				1.0	μs
Storage Time	t_{stg}	$I_C=2A, I_{B1}=0.4A, I_{B2}=-0.8A,$ $R_L=200\Omega, V_{CC}=400V$			3.0	μs
Fall Time	t_f				0.7	μs

*: The $h_{FE}(1)$ of the 2SC3150 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 2010C

(unit:mm)



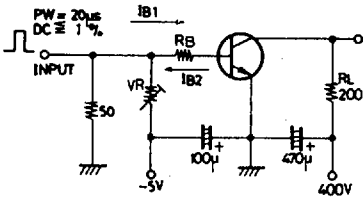
- 1: Base
- 2: Collector
- 3: Emitter

JEDEC: TO220AB
EIAJ: SC46

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Switching Time Test Circuit



Unit (Resistance : Ω , Capacitance : F)

