

NPN Triple Diffused Planar Silicon Transistor 2SC3149

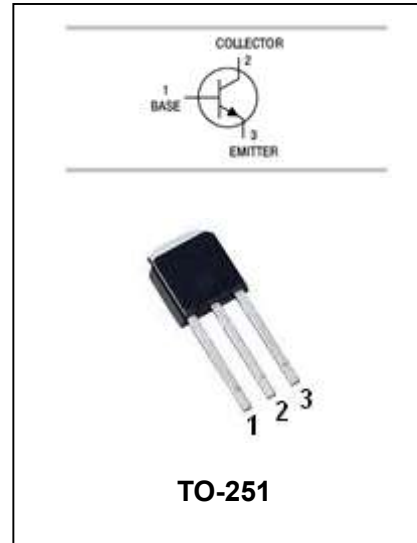
FEATURES

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



APPLICATIONS

- 800V/1.5A Switching Regulator Applications.



MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current	1.5	A
I_{CP}	Collector Current(Pulse)	5	A
I_B	Base Current	0.8	A
P_C	Collector Power Dissipation	1.2	W
T_j, T_{stg}	Junction and Storage temperature range	-55 to +150	°C

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ELECTRICAL CHARACTERISTICS @ $T_a=25^{\circ}\text{C}$ unless otherwise specified

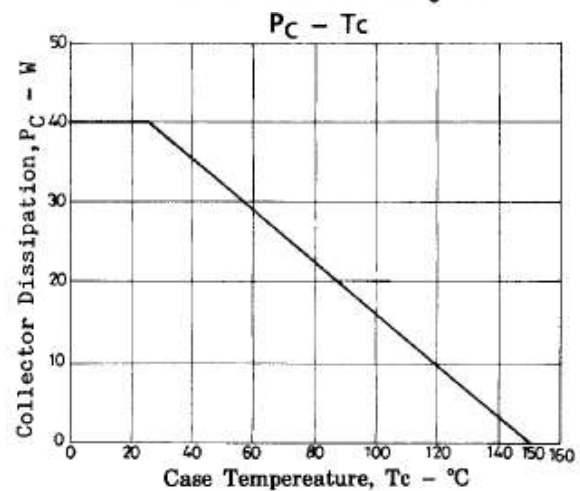
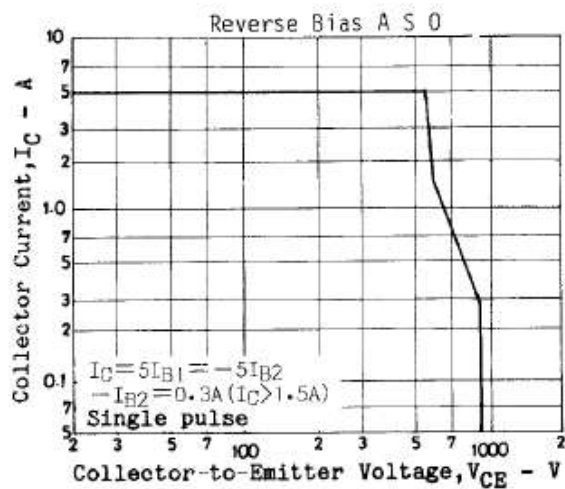
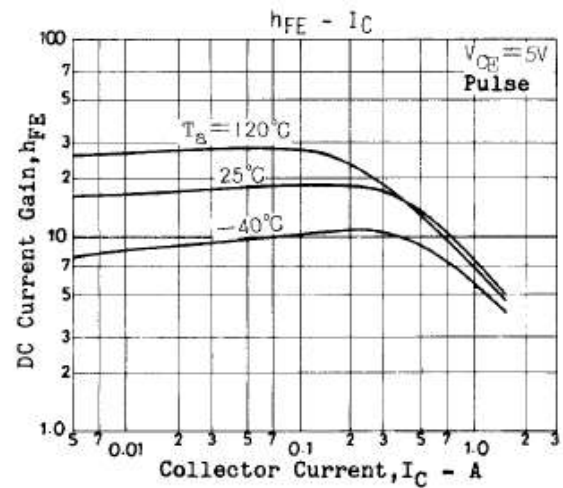
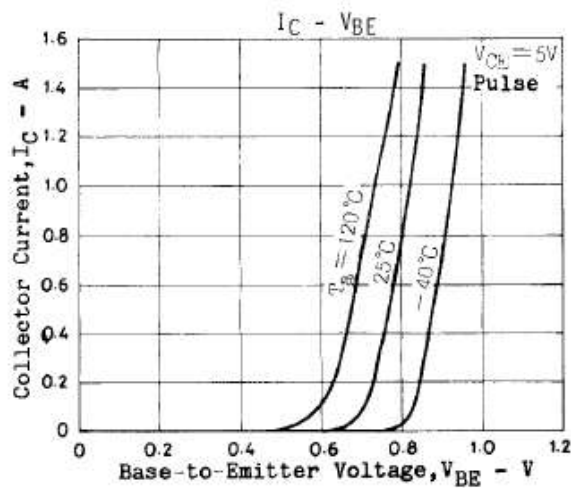
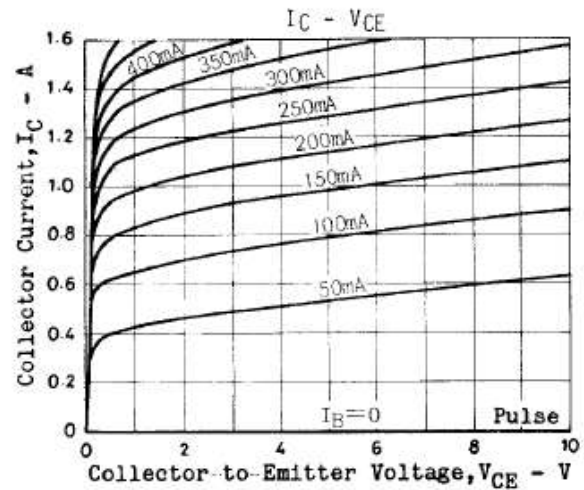
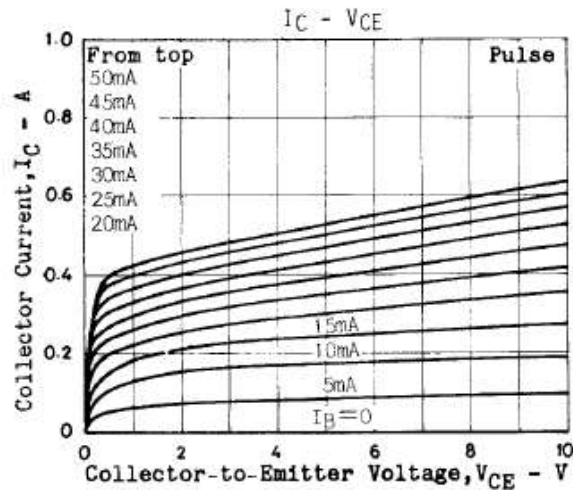
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	$I_C=1\text{mA}, I_E=0$	900			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C=5\text{mA}, I_B=0$	800			V
Emitter-base breakdown voltage	V_{EBO}	$I_E=1\text{mA}, I_C=0$	7			V
Collector-emitter sustain voltage	$V_{CEO(susu)}$	$I_C=1.5\text{A}, L=1\text{mH}, I_B=0.5\text{A}$	800			V
Collector-emitter sustain voltage	$V_{CEX(susu)}$	$I_C=0.5\text{A}, I_{B1}=0.1\text{A}, I_{B2}=-0.1\text{A}$ $L=5\text{mH}, \text{clamped}$	800			V
Collector-emitter sustain voltage	$V_{CEX(susu)}$	$I_C=0.25\text{A}, I_{B1}=50\text{mA},$ $I_{B2}=-50\text{mA}, L=10\text{mH}, \text{clamped}$	900			V
Collector cut-off current	I_{CBO}	$V_{CB}=800\text{V}, I_E=0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EBO}=5\text{V}, I_C=0$			10	μA
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=0.1\text{A}$ $V_{CE}=5\text{V}, I_C=0.5\text{A}$	10 8		40	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=300\text{mA}, I_B=60\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=0.75\text{A}, I_B=0.15\text{A}$			1.5	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=100\text{mA}$		15		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		30		pF
Turn-on time	t_{on}	$I_C=1\text{A}, I_{B1}=0.2\text{A}, I_{B2}=-0.4\text{A},$ $R_L=400\Omega, V_{CC}=400\text{V}$			1.0	μs
Storage time	t_{stg}				3.0	μs
Fall time	t_f				0.7	μs

CLASSIFICATION OF $h_{FE(1)}$

Rank	K	L	M
Range	10-20	15-30	20-40

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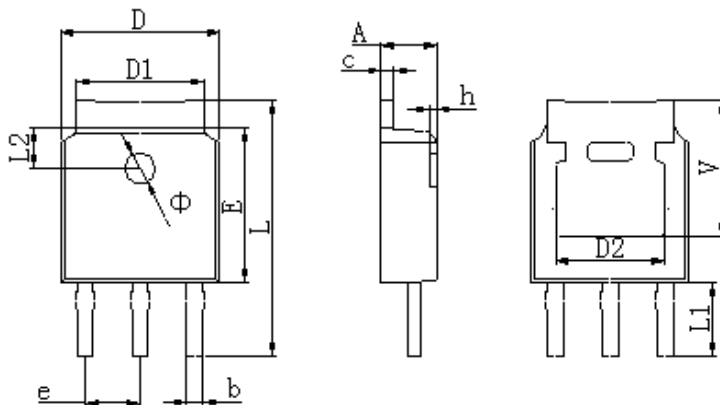


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PACKAGE OUTLINE

Plastic surface mounted package

TO-251



TO-251		
A	2.200	2.400
b	0.500	0.700
c	0.460	0.580
D	6.500	6.700
D1	5.100	5.460
D2	4.830 Typ.	
E	6.000	6.200
e	2.186	2.386
L	12.000	12.600
L1	5.100 Typ.	
L2	1.400	1.700
Φ	1.100	1.300
h	0.000	0.300
V	5.350 Typ.	
All Dimensions in mm		

PACKAGE INFORMATION

Device	Package	Shipping
2SC3149	TO-251	80PCS/Tube