

isc Silicon NPN Power Transistor

2SC3151

DESCRIPTION

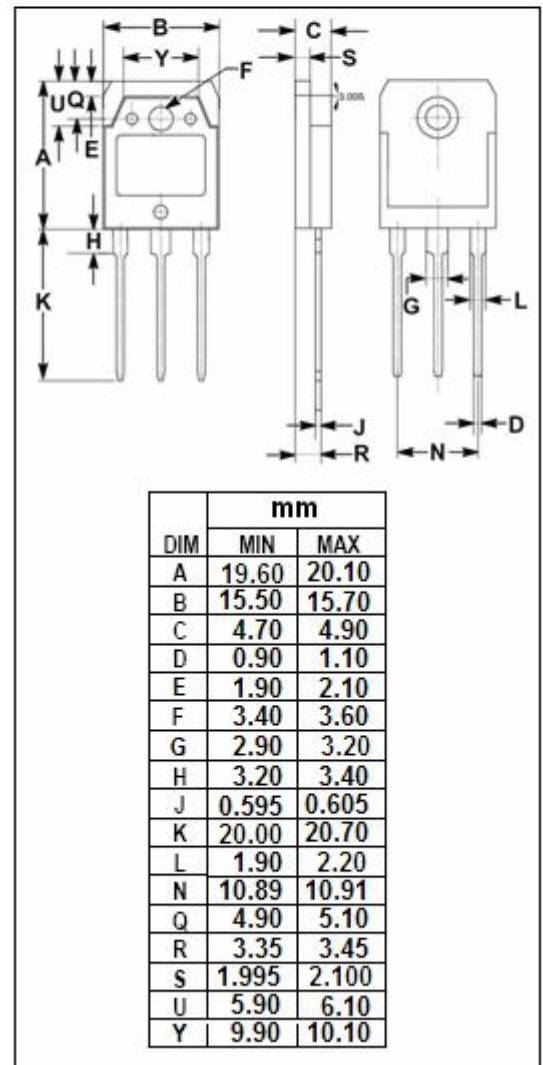
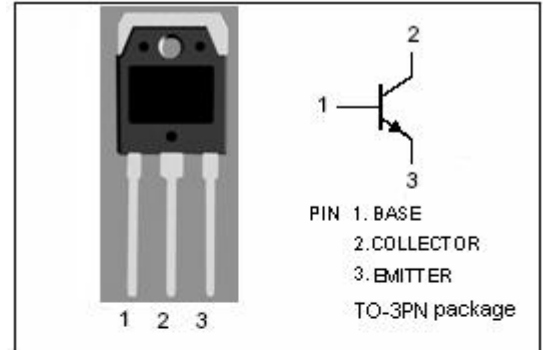
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 800V(\text{Min})$
- Fast Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching regulator and high voltage switching applications
- High speed DC-DC converter applications.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
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-Continuous	1.5	A
I_{CM}	Collector Current-Peak	5	A
I_B	Base Current-Continuous	0.8	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	60	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 5mA; R _{BE} = ∞	800			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA; I _E = 0	900			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	7			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 0.75A; I _B = 0.15A			2.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 0.75A; I _B = 0.15A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 800V; I _E = 0			10	μA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	μA
h _{FE-1}	DC Current Gain	I _C = 0.1A; V _{CE} = 5V	10		40	
h _{FE-2}	DC Current Gain	I _C = 0.5A; V _{CE} = 5V	8			
f _T	Current-Gain—Bandwidth Product	I _C = 0.1A; V _{CE} = 10V		15		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V		30		pF

Switching times

t _r	Rise Time	I _C = 1A; I _{B1} = 0.2A; I _{B2} = -0.4A; R _L = 400 Ω; V _{CC} = 400V			1.0	μs
t _{stg}	Storage Time				3.0	μs
t _f	Fall Time				0.7	μs

◆ h_{FE-1} Classifications

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

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