

isc Silicon NPN Power Transistor

2SC4301

DESCRIPTION

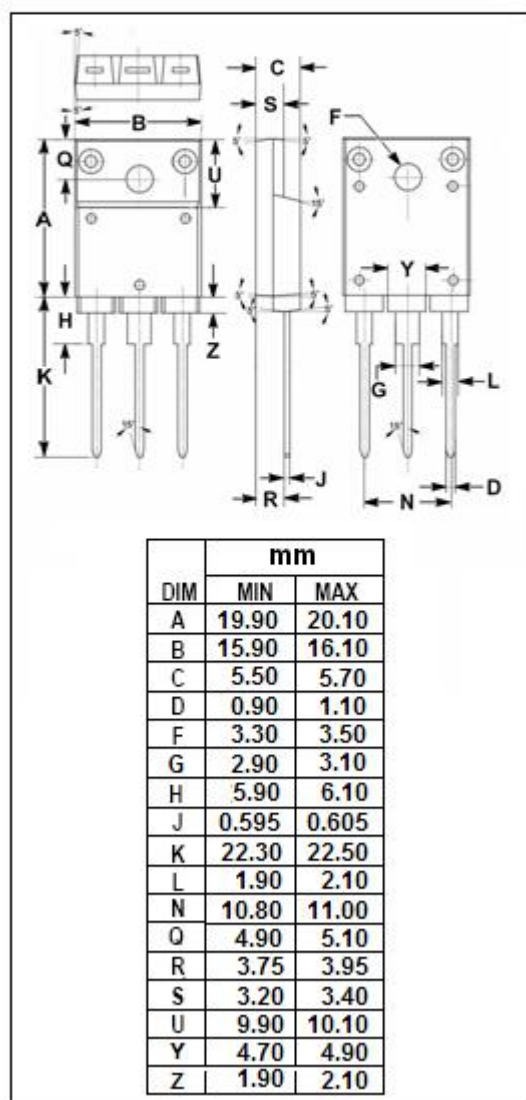
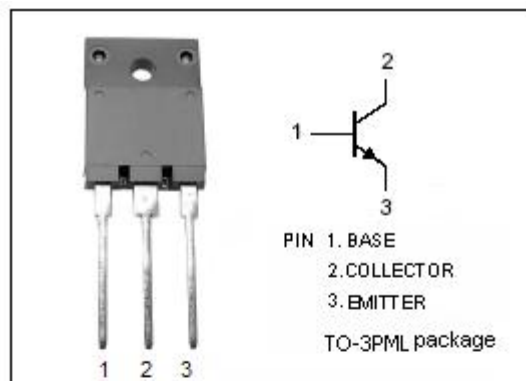
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 800V(\text{Min})$
- High Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for switching regulator and general purpose 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	7	A
I_{CM}	Collector Current-Peak	14	A
I_B	Base Current-Continuous	3.5	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA; I _B = 0	800			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 0.6A			0.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 0.6A			1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 800V; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0			100	μ A
h _{FE}	DC Current Gain	I _C = 3A; V _{CE} = 4V	10		30	
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f= 1MHz		105		pF
f _T	Current-Gain—Bandwidth Product	I _E = -1A; V _{CE} = 12V		6		MHz

Switching Times

t _{on}	Turn-On Time	I _C = 3A; I _{B1} = 0.45A; I _{B2} = -1.5A; V _{CC} = 250V; R _L = 83 Ω			1.0	μ s
t _{stg}	Storage Time				5.0	μ s
t _f	Fall Time				1.0	μ s

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