

isc Silicon NPN Power Transistor

2SC4297

DESCRIPTION

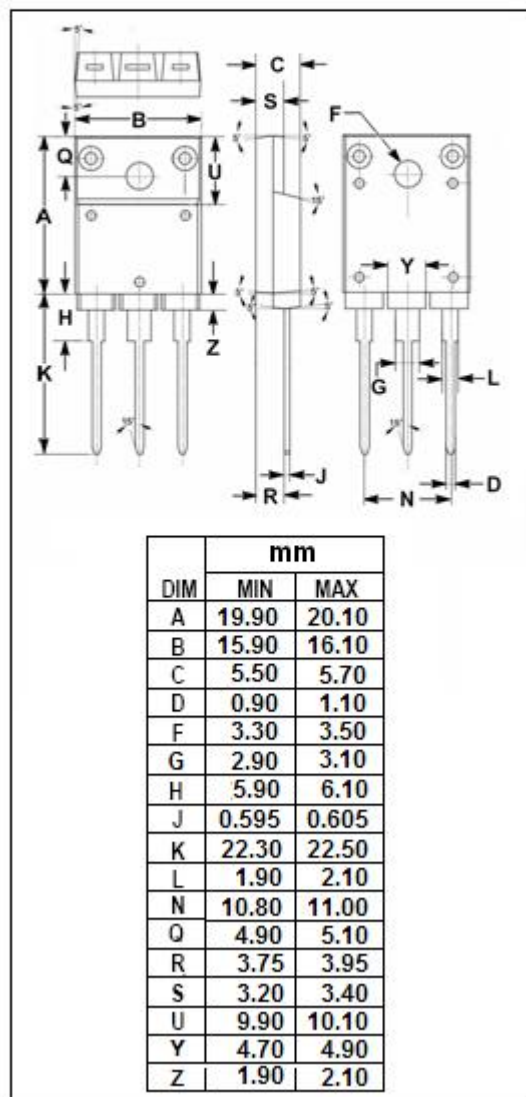
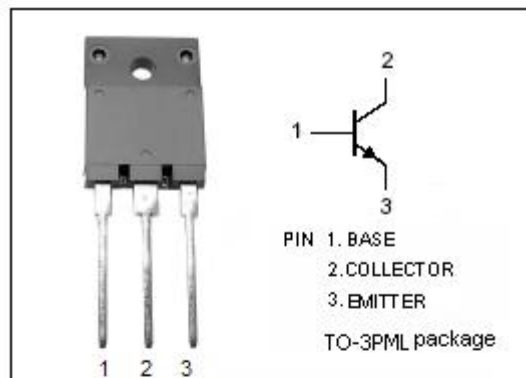
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 400V(\text{Min})$
- High Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

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	500	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	24	A
I_B	Base Current-Continuous	4	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	75	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 25mA; I_B = 0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 7A; I_B = 1.4A$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 7A; I_B = 1.4A$			1.3	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 500V; I_E = 0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 10V; I_C = 0$			100	μA
h_{FE}	DC Current Gain	$I_C = 7A; V_{CE} = 4V$	10		30	
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = 10V; f = 1MHz$		105		pF
f_T	Current-Gain—Bandwidth Product	$I_E = -1A; V_{CE} = 12V$		10		MHz

Switching Times

t_{on}	Turn-On Time	$I_C = 7A; I_{B1} = 0.7A; I_{B2} = -1.4A;$ $V_{CC} = 200V; R_L = 28.5 \Omega$			1.0	μs
t_{stg}	Storage Time				3.0	μs
t_f	Fall Time				0.5	μs

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