

isc Silicon NPN Power Transistor

2N6933

DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 300V(\text{Min})$
- High Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

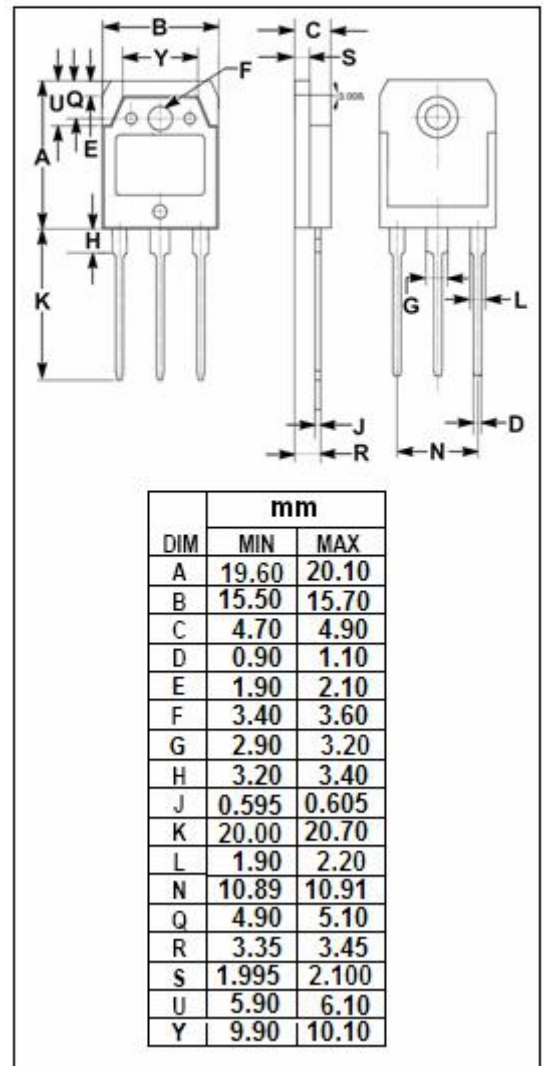
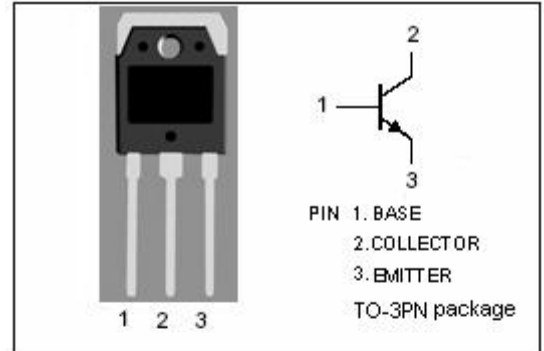
- Designed for off-line power supplies, switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	450	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base voltage	8	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	23	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	175	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.71	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA; I _E = 0	450			V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA; R _{BE} = ∞	300			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1m A; I _C = 0	8			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 15A; I _B = 3.0A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 15A; I _B = 3.0A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 450V ; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 8V; I _C = 0			100	μ A
h _{FE}	DC Current Gain	I _C = 15A ; V _{CE} = 3V	8		35	
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1.0MHz	150			pF

Switching Times

t _d	Delay Time	I _C = 15A, I _{B1} = -I _{B2} = 3A R _L = 20 Ω ; V _{CC} = 300V			0.1	μ s
T _r	Rise Time				0.7	μ s
t _{stg}	Storage Time				2.5	μ s
t _f	Fall Time				0.5	μ s

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