

isc Silicon NPN Power Transistor

2SC2438

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.5(V)(Max) @ I_C = 4A$
- High Switching Speed
- High Reliability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

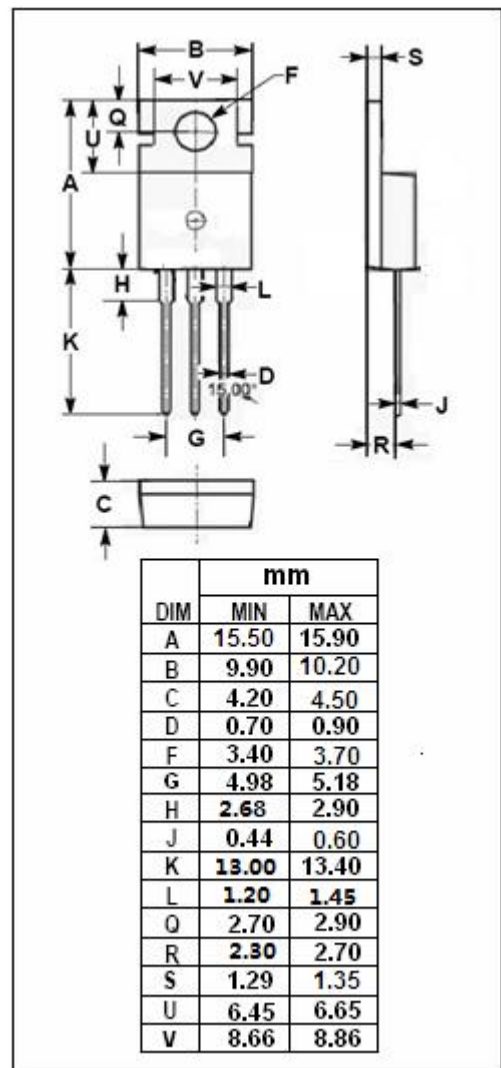
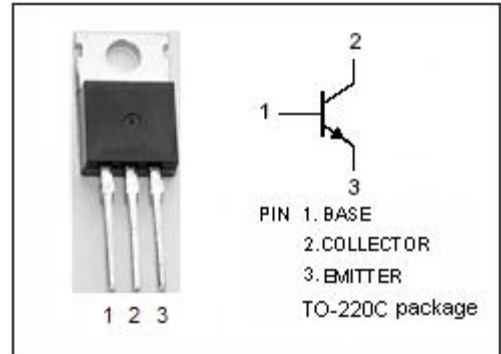
- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	7	A
I_B	Base Collector Current-Continuous	2	A
P_C	Total Power Dissipation @ $T_C = 25^\circ C$	50	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	2.5	$^\circ C/W$



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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 = 10mA; I _B = 0	100			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 0.1mA; I _E = 0	150			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 0.1mA; I _C = 0	7			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A			0.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A			1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 150V; 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 = 4A; V _{CE} = 1V	30			

Switching Times

t _{on}	Turn-On Time	I _C = 4A; I _{B1} = -I _{B2} = 0.4A; R _L = 5 Ω			0.5	μ s
t _{stg}	Storage Time				2.5	μ s
t _f	Fall Time				0.3	μ s

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