

isc Silicon NPN Power Transistor

2SC3159

DESCRIPTION

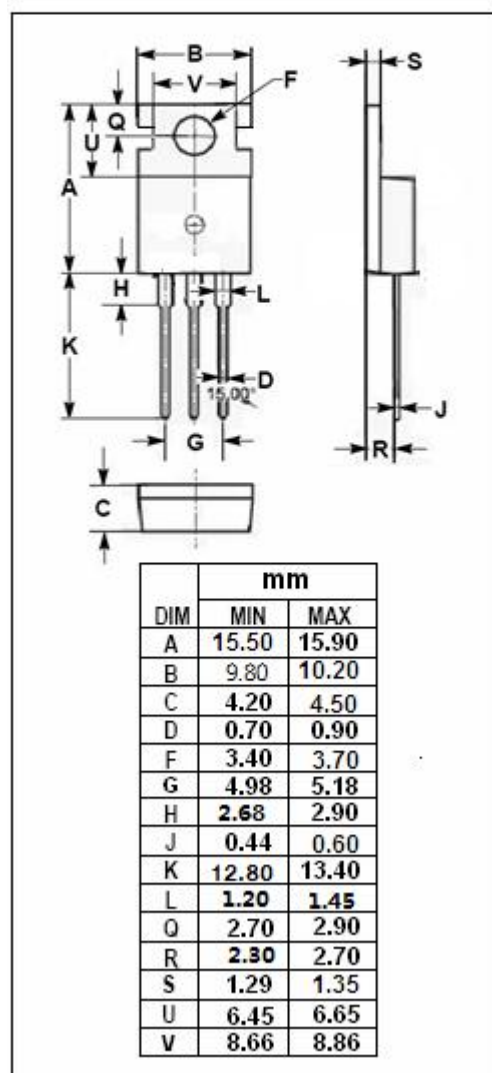
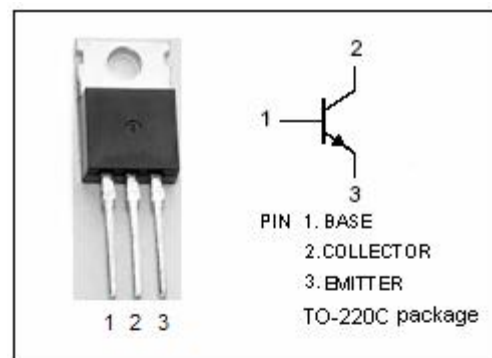
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max.})@I_C = 6A$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for switching regulator, DC-DC converter and high frequency power amplifier 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	7	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	5.0	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 Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SC3159****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 6A; I _B = 1.2A; L= 1mH	400			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 6A; I _B = 1.2A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 6A; I _B = 1.2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 400V; I _E = 0			10	μ A
I _{CEX}	Collector Cutoff Current	V _{CE} = 400V; V _{BE(off)} =-1.5V V _{CE} = 400V; V _{BE(off)} =-1.5V, T _a =125°C			100 1.0	μ A mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	μ A
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 5V	15		80	
h _{FE-2}	DC Current Gain	I _C = 3A; V _{CE} = 5V	10			
h _{FE-3}	DC Current Gain	I _C = 6A; V _{CE} = 5V	7			

Switching times

t _{on}	Turn-On Time	I _C = 6A; I _{B1} = -I _{B2} = 1.2A; R _L = 25 Ω; V _{CC} ≈ 150V			1.0	μ s
t _{stg}	Storage Time				2.5	μ s
t _f	Fall Time				0.7	μ s

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