

isc Silicon NPN Power Transistors
2SC5382
DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 550V(\text{Min})$
- High Switching Speed
- Low Collector Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

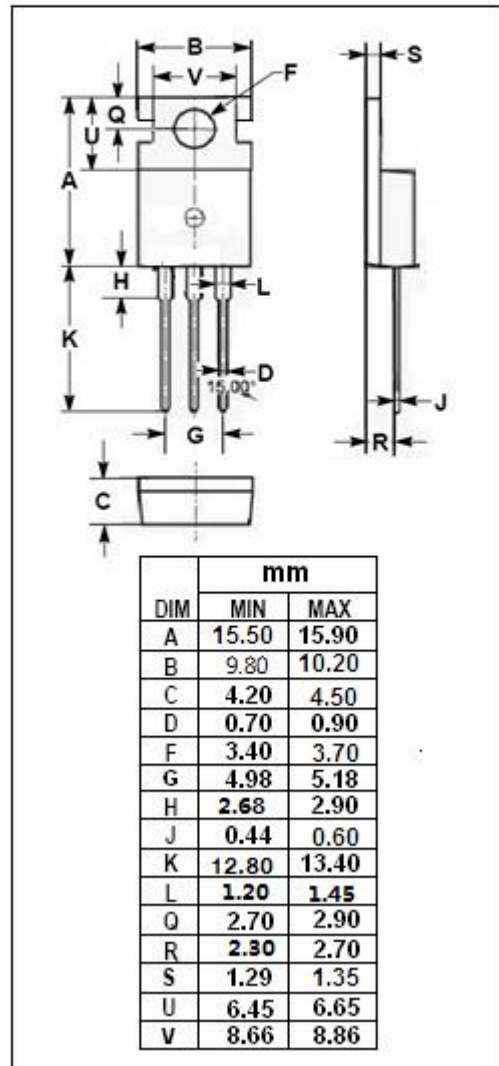
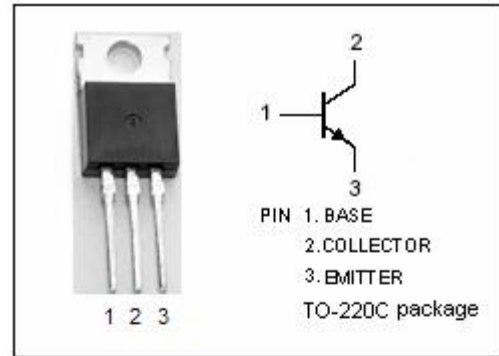
- Designed for switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1200	V
V_{CEO}	Collector-Emitter Voltage	550	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	12	A
I_B	Base Current-Continuous	3	A
I_{BM}	Base Current-Peak	6	A
P_T	Total Power Dissipation @ $T_C=25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.13	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0$	550			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=1200\text{V}; I_E=0$			100	μA
I_{CEO}	Collector Cutoff Current	$V_{CE}=550\text{V}; I_B=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			100	μA
h_{FE-1}	DC Current Gain	$I_C=3\text{A}; V_{CE}=5\text{V}$	10			
h_{FE-2}	DC Current Gain	$I_C=1\text{mA}; V_{CE}=5\text{V}$	10			

Switching times

t_{on}	Turn-on Time	$I_C=3\text{A}, I_{B1}=0.6\text{A}; I_{B2}=-1.2\text{A};$ $R_L=50\Omega; V_{BB2}=4\text{V}$			1.3	μs
t_{stg}	Storage Time				4.0	μs
t_f	Fall Time				0.3	μs

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