

SPTECH Silicon NPN Power Transistor

2SC2335

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEQ(SUS)} = 400V(\text{Min})$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 3A, I_B = 0.6A$
- Fast Switching Speed

APPLICATIONS

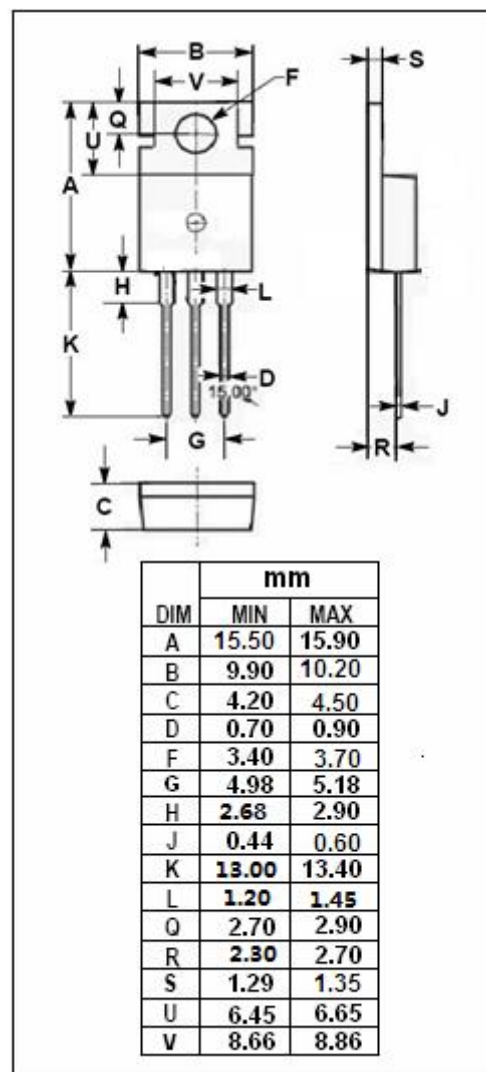
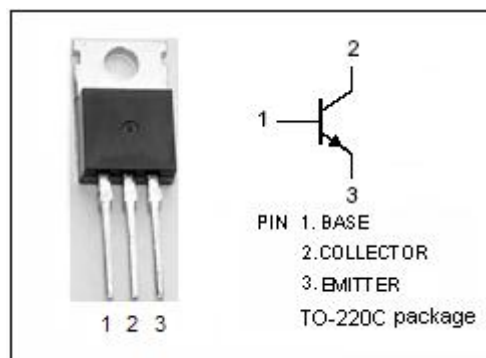
- Designed for use in high-voltage, high-speed switching in Inductive circuit, they are particularly suited for 115 and 220V switchmode applications such as switching regulators, inverters, DC-DC and converter.

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	7.0	V
I_C	Collector Current-Continuous	7.0	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	3.5	A
P_C	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	3.125	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}$, $I_B=0$	400		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	$I_C=3\text{A}$; $I_B=0.6\text{A}$		1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=400\text{V}$; $I_E=0$		10	μA
I_{CEX}	Collector Cutoff Current	$V_{CE}=400\text{V}$; $V_{BE(off)}=-1.5\text{V}$ $V_{CE}=400\text{V}$; $V_{BE(off)}=-1.5\text{V}$, $T_a=125^{\circ}\text{C}$		10 5.0	μA mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$		10	μA
h_{FE-1}	DC Current Gain	$I_C=0.1\text{A}$; $V_{CE}=5\text{V}$	20	80	
h_{FE-2}	DC Current Gain	$I_C=1\text{A}$; $V_{CE}=5\text{V}$	20	80	
h_{FE-3}	DC Current Gain	$I_C=3\text{A}$; $V_{CE}=5\text{V}$	10		

Switching times

t_{on}	Turn-on Time	$I_C=3\text{A}$, $R_L=50\Omega$, $I_{B1}=-I_{B2}=0.6\text{A}$, $V_{CC}=150\text{V}$		1.0	μs
t_{stg}	Storage Time			2.5	μs
t_f	Fall Time			1.0	μs

◆ h_{FE-2} Classifications

M	L	K
20-40	30-60	40-80