

isc Silicon NPN Power Transistor

KSC5337

DESCRIPTION

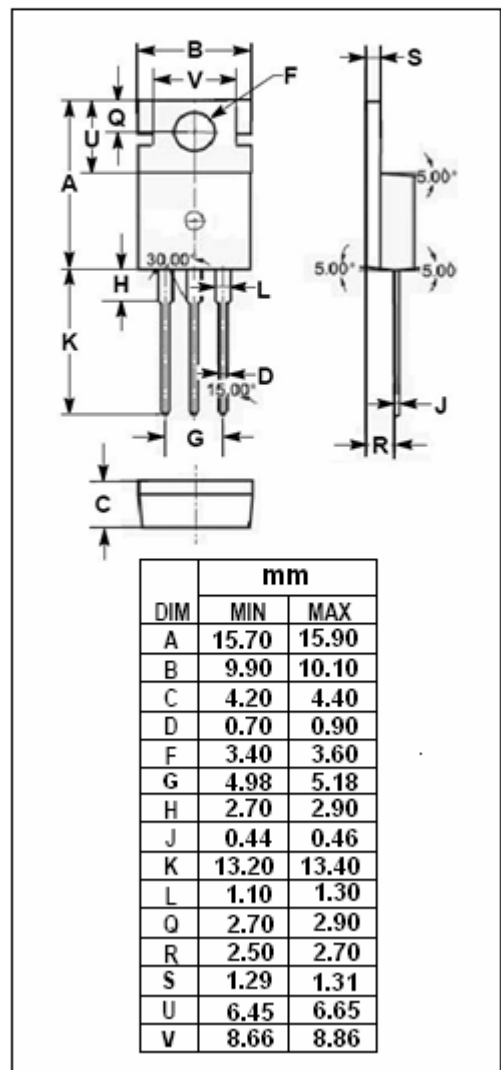
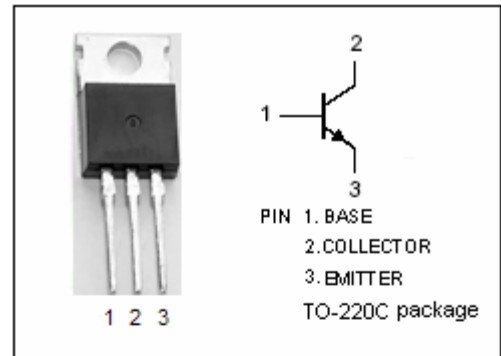
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 400V(\text{Min})$
- High Switching Speed
- Wide Area of Safe Operation

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	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	2	A
I_{BM}	Base Current-Peak	4	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	100	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	7000			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=5\text{mA}; I_B=0$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=1.3\text{A}; I_B=0.13\text{A}$			0.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$			0.7	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=1.3\text{A}; I_B=0.13\text{A}$			1.1	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$			1.25	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=700\text{V}; R_{BE}=0; I_B=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			10	μA
h_{FE-1}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=5\text{V}$	15		40	
h_{FE-2}	DC Current Gain	$I_C=3\text{A}; V_{CE}=1\text{V}$	6			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{\text{test}}=0.1\text{MHz}$		70		pF
f_T	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}; V_{CE}=6\text{V}$		14		MHz

Switching Times

t_{on}	Turn-On Time	$I_C=1\text{A}; I_{B1}=-I_{B2}=0.2\text{A}; V_{CC}=125\text{V}$			0.2	μs
t_s	Storage Time				2.0	μs
t_f	Fall Time				0.5	μs