SemiHow
Know-How for Semiconductor

KSP742C

NPN Silicon Power Transistor, VCBO= 1050V, VCEO= 500V, IC= 4A

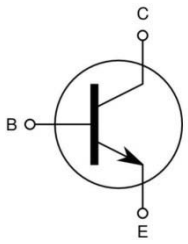
General Description

- High voltage, high speed power switching
- Suitable for switching regulator, inverters, motor controls

Features

- VCBO = 1050V
- VCEO = 500V
- VBEO = 15V
- IC = 4A

TO-220



Ordering Information

Ordering number	Package	Pin Assignment			Packing
		1	2	3	
KSP742C	TO-220	B	C	E	Tube

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Absolute Maximum Ratings TC=25℃ unless otherwise noted

CHARACTERISTICS	SYMBOL	RATING	UNIT
		TO-220	
Collector-Base Voltage	V_{CBO}	1050	V
Collector-Emitter Voltage	V_{CEO}	500	V
Emitter-Base Voltage	V_{EBO}	15	V
Collector Current(DC)	I_C	4	A
Collector Current(Pulse)	I_{CP}	8	A
Base Current	I_B	2	A
Collector Dissipation(Tc=25℃)	P_C	70	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-65~150	℃

Electrical Characteristics (1) TC=25℃ unless otherwise noted

CHARACTERISTICS	SYMBOL	Test Condition	Min	Typ.	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	I_C=500μA, I_E=0	1050			V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=5mA, I_B=0	500			V
Emitter-Base Breakdown Voltage	V_{EBO}	I_E=1mA, I_C=0	15	19	24	V
Emitter Cut-off Current	I_{EBO}	V_{EB}=15V,I_C=0			1	mA
DC Current Gain	h_{FE1} h_{FE2}	V_{CE}=5V,I_C=0.1A V_{CE}=3V,I_C=0.8A	48 25	75	100 50	
Collector-Emitter Saturation Voltage	V_{CE}(sat)	I_C=1.0A,I_B=0.2A I_C=3.5A,I_B=1.0A			0.5 1.5	V V
Base-Emitter Saturation Voltage	V_{BE}(sat)	I_C=3.5A,I_B=1.0A			1.5	V
Output Capacitance	C_{ob}	V_{CB}=10V, f=0.1MHz		36		pF
Storage Time	t_{stg}	Ic=500mA, I_B=10mA (UI9600)	2		7	μs

Notes ;
1. Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Typical Characteristics

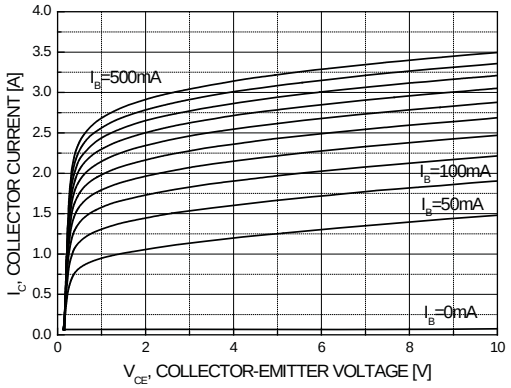


Figure 1. Static Characteristic

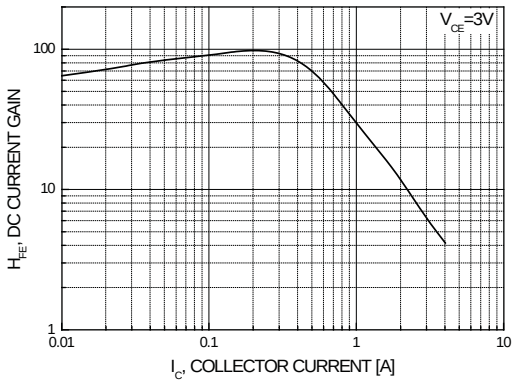


Figure 2. DC Current Gain

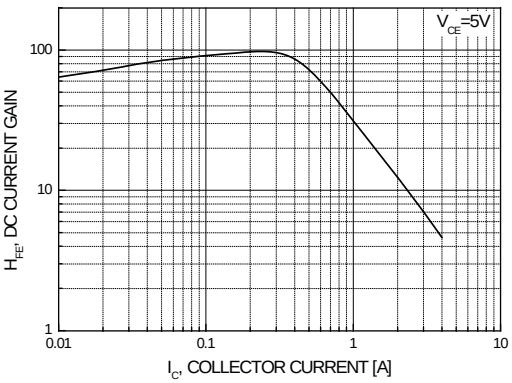


Figure 3. DC Current Gain

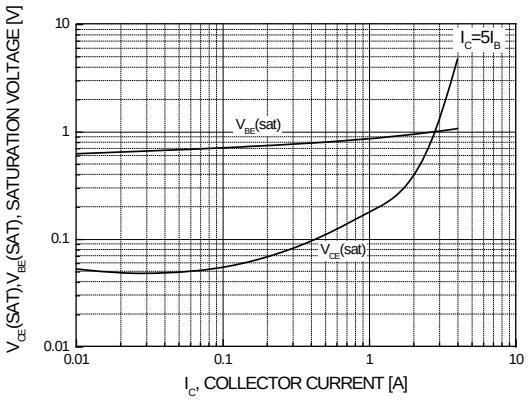


Figure 4. Saturation Voltage

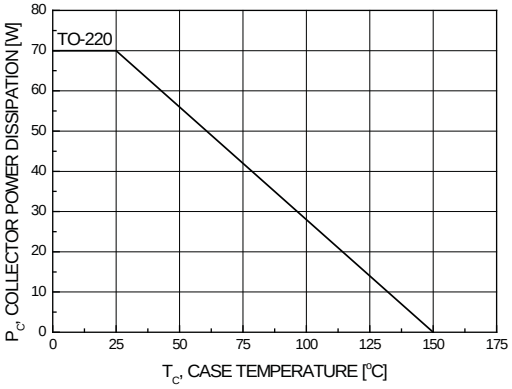
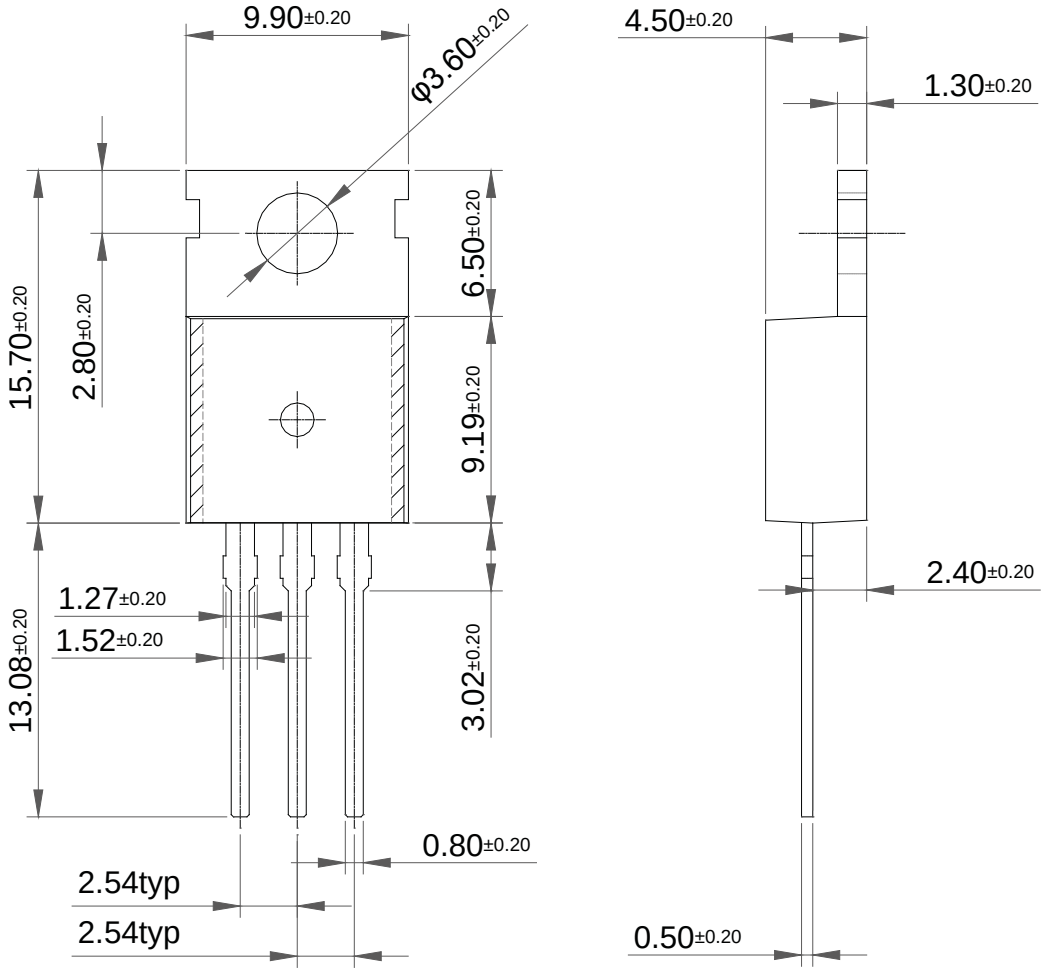


Figure 5. Power Derating

Package Dimension

TO-220



Dimensions in Millimeters