

isc Silicon NPN Power Transistor

2SC3690

DESCRIPTION

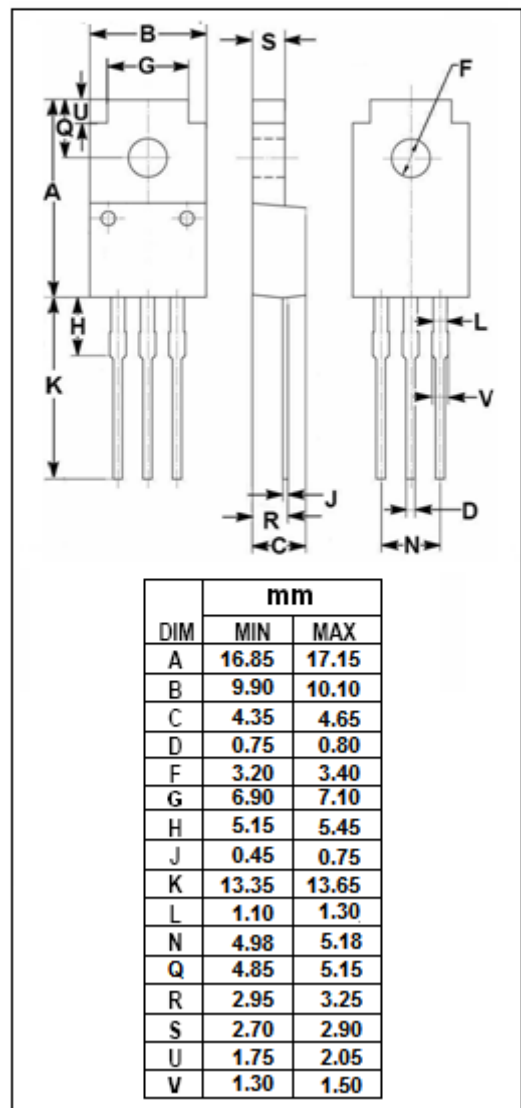
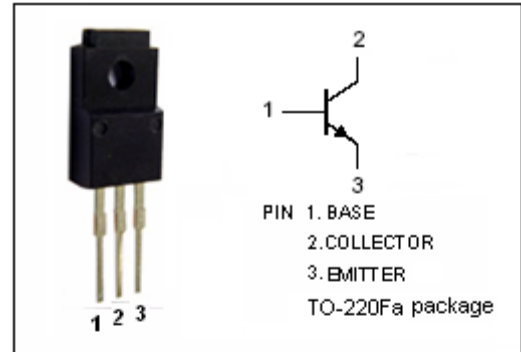
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.5V(\text{Max}) @ I_C = 3A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 60V (\text{Min})$
- High Switching Speed

APPLICATIONS

- Designed for high speed and power switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3	A
$I_{CM}$	Collector Current-Peak	6	A
$I_B$	Base Current-Continuous	1.5	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	15	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistor****2SC3690****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.2A, L= 1mH	60			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.1A			0.3	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.15A			0.5	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.1A			1.2	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.15A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 60V; I <sub>E</sub> = 0			10	μ A
I <sub>CEX</sub>	Collector Cutoff Current	V <sub>CE</sub> = 60V; V <sub>BE</sub> = -1.5V T <sub>a</sub> =125°C			10 1.0	μ A mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.3A; V <sub>CE</sub> = 2V	100			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 0.6A; V <sub>CE</sub> = 2V	100	200	400	
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 2A; V <sub>CE</sub> = 2V	60			

◆ **h<sub>FE-2</sub> classifications**

M	L	K
100-200	150-300	200-400