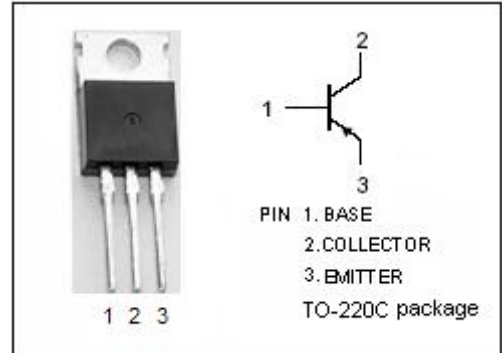


**DESCRIPTION**

- DC Current Gain -  
:  $h_{FE} = 40(\text{Min.}) @ I_C = -0.5A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = -45V(\text{Min.})$
- Complement to Type BD705

**APPLICATIONS**

- Designed for use in power linear and switching applications.

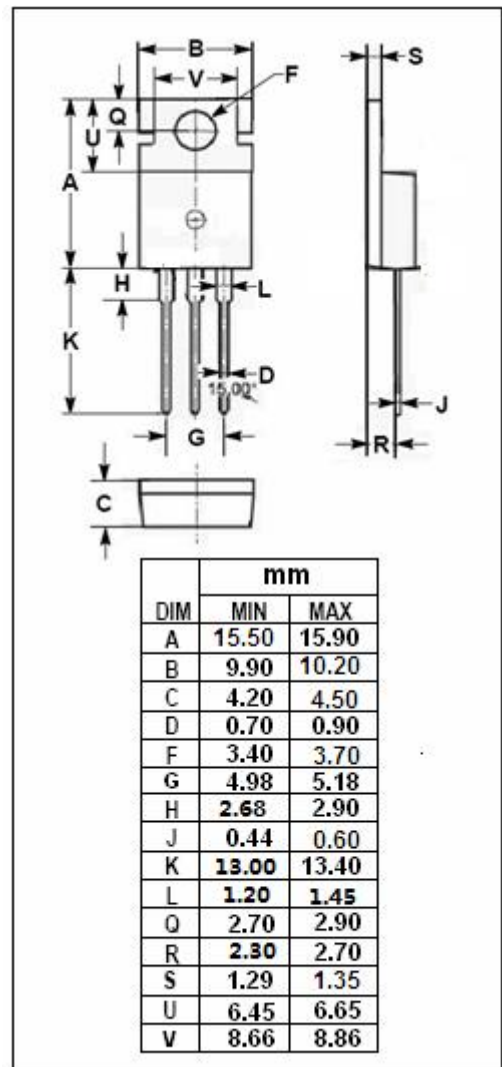


**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-45	V
$V_{CES}$	Collector-Emitter Voltage $V_{BE} = 0$	-45	V
$V_{CEO}$	Collector-Emitter Voltage	-45	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-12	A
$I_B$	Base Current-Continuous	-5	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	75	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -30\text{mA}; I_B = 0$	-45		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -4\text{A}; I_B = -0.4\text{A}$		-1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -4\text{A}; V_{CE} = -4\text{V}$		-1.5	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -22\text{V}; I_B = 0$		-1.0	mA
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -45\text{V}; I_E = 0$ $V_{CB} = -45\text{V}; I_E = 0; T_C = 150^\circ\text{C}$		-0.1 -1.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$		-1.0	mA
$h_{FE-1}$	DC Current Gain	$I_C = -0.5\text{A}; V_{CE} = -2\text{V}$	40	400	
$h_{FE-2}$	DC Current Gain	$I_C = -2\text{A}; V_{CE} = -2\text{V}$	30		
$h_{FE-3}$	DC Current Gain	$I_C = -4\text{A}; V_{CE} = -4\text{V}$	20	150	
$h_{FE-4}$	DC Current Gain	$I_C = -10\text{A}; V_{CE} = -4\text{V}$	5		
$f_T$	Current-Gain—Bandwidth Product	$I_C = -0.3\text{A}; V_{CE} = -3\text{V}$	3		MHz