

# MJD45H11

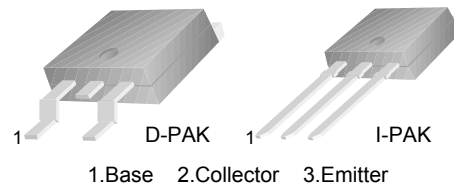
## PNP Epitaxial Silicon Transistor

### Applications

- General Purpose Power and Switching Such as Output or Driver Stages in Applications
- D-PAK for Surface Mount Applications

### Features

- Load Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK: “-I” Suffix)
- Electrically Similar to Popular MJE45H
- Fast Switching Speeds
- Low Collector Emitter Saturation Voltage



### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

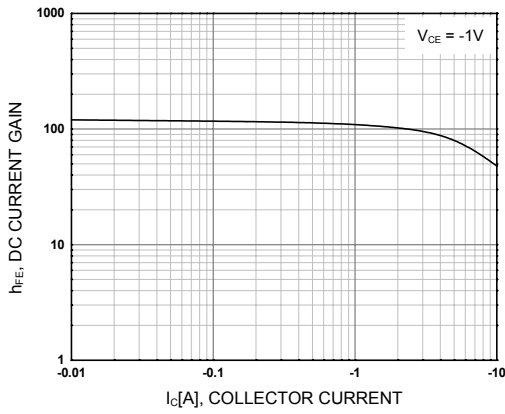
Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	- 80	V
$V_{EBO}$	Emitter-Base Voltage	- 5	V
$I_C$	Collector Current (DC)	- 8	A
$I_{CP}$	Collector Current (Pulse)	- 16	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	20	W
	Collector Dissipation ( $T_A=25^\circ\text{C}$ )	1.75	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 to +150	$^\circ\text{C}$

### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

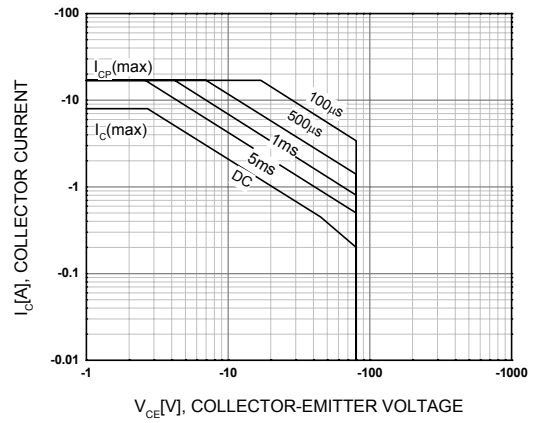
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$V_{CEO(sus)}$	*Collector-Emitter Sustaining Voltage	$I_C = -30\text{mA}$ , $I_B = 0$	- 80			V
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = -80\text{V}$ , $I_B = 0$			- 10	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = -5\text{V}$ , $I_C = 0$			- 50	$\mu\text{A}$
$h_{FE}$	*DC Current Gain	$V_{CE} = -1\text{V}$ , $I_C = -2\text{A}$	60			
		$V_{CE} = -1\text{V}$ , $I_C = -4\text{A}$	40			
$V_{CE(sat)}$	*Collector-Emitter Saturation Voltage	$I_C = -8\text{A}$ , $I_B = -0.4\text{A}$			- 1	V
$V_{BE(on)}$	*Base-Emitter Saturation Voltage	$I_C = -8\text{A}$ , $I_B = -0.8\text{A}$			- 1.5	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10\text{A}$ , $I_C = -0.5\text{A}$		40		MHz
$C_{ob}$	Collector Capacitance	$V_{CB} = -10\text{V}$ , $f = 1\text{MHz}$		230		pF
$t_{ON}$	Turn On Time	$I_C = -5\text{A}$ $I_{B1} = -I_{B2} = -0.5\text{A}$		135		ns
$t_{STG}$	Storage Time			500		ns
$t_F$	Fall Time			100		ns

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

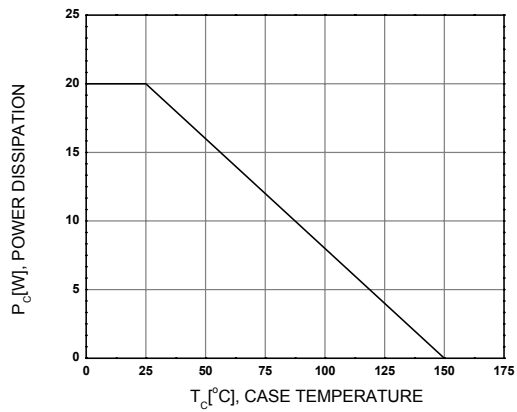
## Typical Performance Characteristics



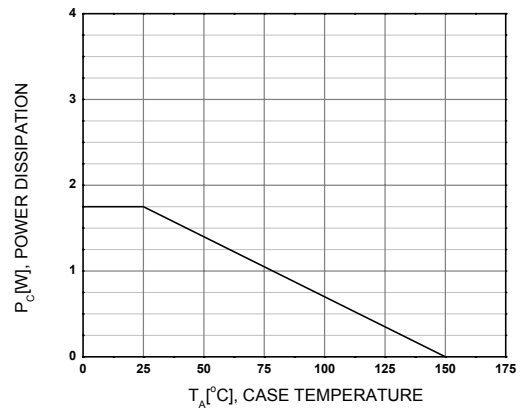
**Figure 1. DC current Gain**



**Figure 2. Safe Operating Area**



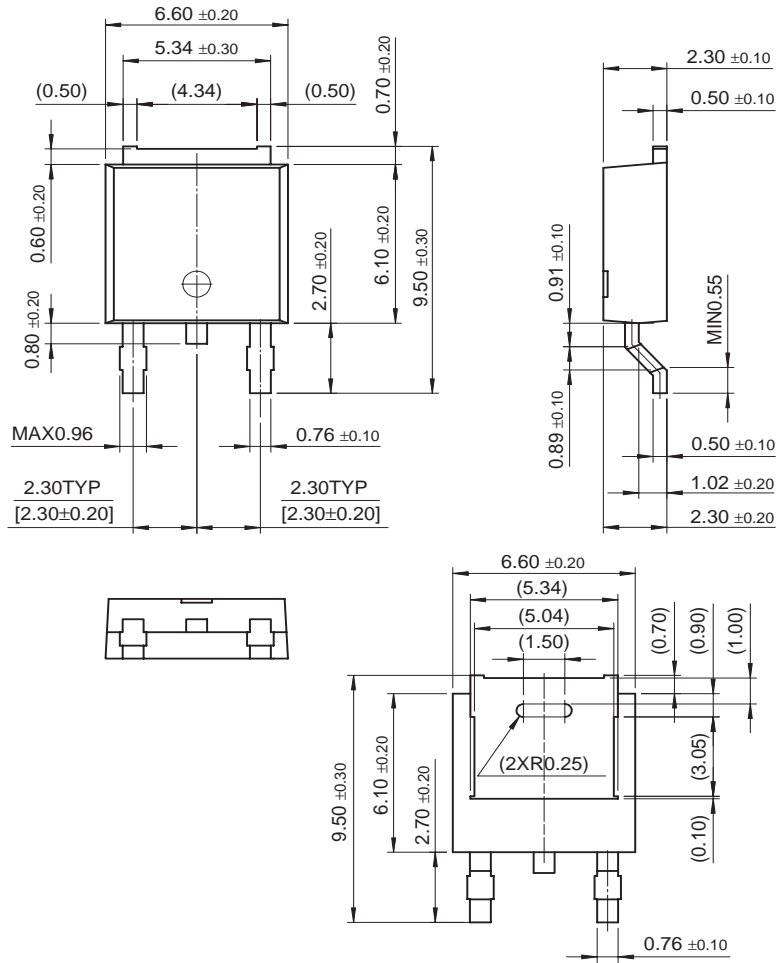
**Figure 3. Power Derating vs  $T_C$**



**Figure 4. Power Derating vs  $T_A$**

Physical Dimension

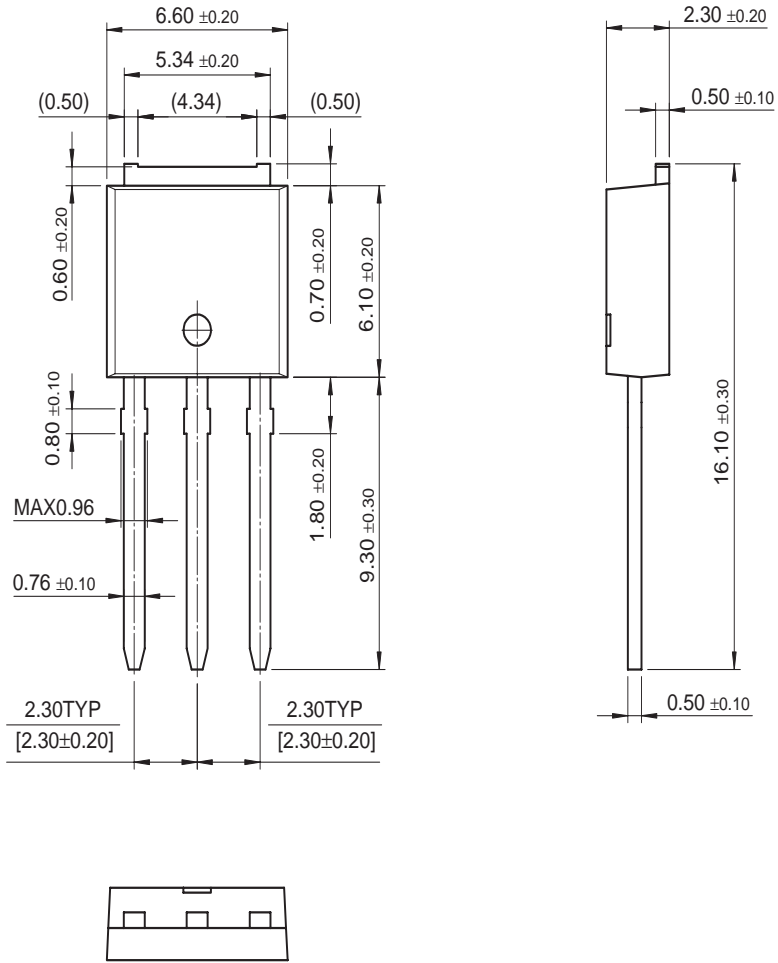
D-PAK



Dimensions in Millimeters

Physical Dimension (Continued)

I-PAK







Dimensions in Millimeters



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