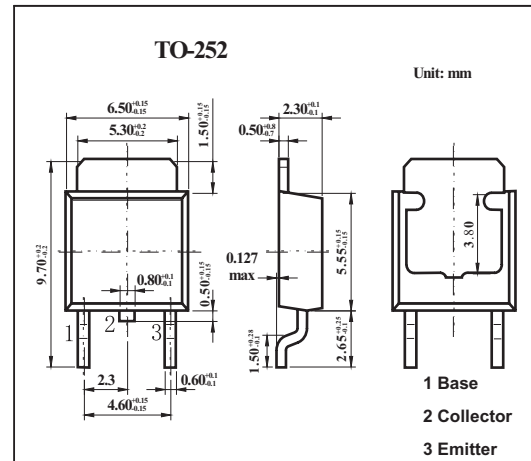


# MJD45H11

## ■ Features

- Lead Formed for Surface Mount Applications in Plastic Sleeves
- Fast Switching Speeds
- Complementary Pairs Simplifies Designs
- Pb-Free Packages are Available



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V <sub>CEO</sub>	80	V
Emitter-base voltage	V <sub>EB</sub>	5	V
Collector current	I <sub>C</sub>	8	A
Collector current (pulse)	I <sub>CP</sub>	16	A
Total Device Dissipation FR-5 Board @T <sub>A</sub> = 25°C	P <sub>D</sub>	20	W
Derate above 25°C		0.16	W/°C
Total Device Dissipation Alumina Substrate @T <sub>A</sub> = 25°C	P <sub>D</sub>	1.75	W
Derate above 25°C		0.014	W/°C
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C
Thermal Resistance, Junction-to-Case	R <sub>θJC</sub>	6.25	°C/W
Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	71.4	°C/W
Lead Temperature for Soldering	T <sub>L</sub>	260	°C

## MJD45H11

### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter sustaining voltage	$V_{CEo(sus)}$	$I_C = 30\text{ mA}, I_B = 0$	80			V
Collector cutoff current	$I_{CES}$	$V_{CE} = \text{Rated } V_{CEo}, V_{EB} = 0$			10	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{BE} = 5\text{ V}, I_C = 0$			50	$\mu\text{A}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 8\text{ A}, I_B = 0.4\text{ A}$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 8\text{ A}, I_B = 0.8\text{ A}$			1.5	V
DC current gain	$h_{FE}$	$I_C = 2\text{ A}, V_{CE} = 1\text{ V}$	60			
		$I_C = 4\text{ A}, V_{CE} = 1\text{ V}$	40			
Collector capacitance	$C_{cb}$	$V_{CB} = 10\text{ V}, f_{test} = 1\text{ MHz}$		230		pF
Current-gain-bandwidth product *2	fT	$I_C = 0.5\text{ A}, V_{CE} = 10\text{ V}, f = 20\text{ MHz}$		40		MHz
Delay and rise times	$t_d + t_r$	$I_C = 5\text{ A}, I_{B1} = 0.5\text{ A}$		135		ns
Storage time	$t_s$	$I_C = 5\text{ A}, I_{B1} = I_{B2} = 0.5\text{ A}$		500		ns
Fall time	$t_f$	$I_C = 5\text{ A}, I_{B1} = I_{B2} = 0.5\text{ A}$		100		ns

### ■ Marking

Marking	J45H11
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