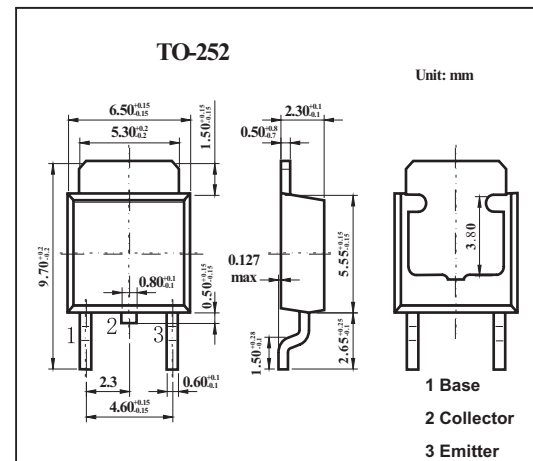


## Complementary Power Transistors

## 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  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	$V_{CEO}$	80	V
Emitter-base voltage	$V_{EB}$	5	V
Collector current	$I_C$	8	A
Collector current (pulse)	$I_{CP}$	16	A
Total Device Dissipation FR-5 Board @ $T_A = 25^\circ\text{C}$	$P_D$	20	W
Derate above $25^\circ\text{C}$		0.16	W/ $^\circ\text{C}$
Total Device Dissipation Alumina Substrate @ $T_A = 25^\circ\text{C}$	$P_D$	1.75	W
Derate above $25^\circ\text{C}$		0.014	W/ $^\circ\text{C}$
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	6.25	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	71.4	$^\circ\text{C}/\text{W}$
Lead Temperature for Soldering	$T_L$	260	$^\circ\text{C}$

**MJD45H11**■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter sustaining voltage	$V_{CE0(sus)}$	$I_C = 30\text{ mA}, I_B = 0$	80			V
Collector cutoff current	$I_{CES}$	$V_{CE} = \text{Rated } V_{CE0}, V_{EB} = 0$			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		$\text{pF}$
Current-gain-bandwidth product *2	$f_T$	$I_C = 0.5\text{ A}, V_{CE} = 10\text{ V}, f = 20\text{ MHz}$		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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