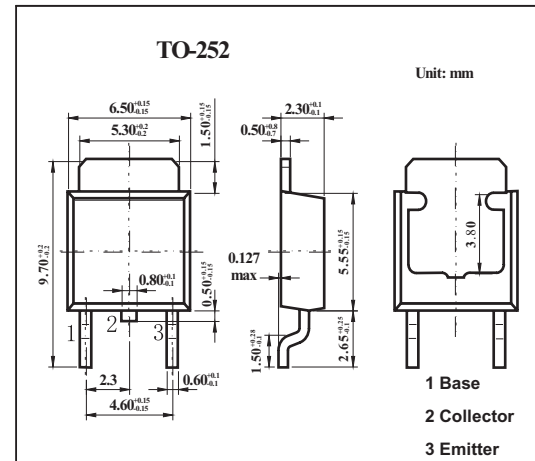


Complementary Power Transistors

MJD44H11

■ 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 @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	20 0.16	W W/ $^\circ\text{C}$
Total Device Dissipation Alumina Substrate @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.75 0.014	W 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	$^\circ\text{C}$

MJD44H11■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	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	μA
Emitter cutoff current	I_{EBO}	$V_{BE} = 5\text{ V}, I_C = 0$			50	μA
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}	$V_{CB} = 10\text{ V}, f_{test} = 1\text{ MHz}$		130		pF
Current-gain-bandwidth product *2	f_T	$I_C = 0.5\text{ A}, V_{CE} = 10\text{ V}, f = 20\text{ MHz}$		50		MHz
Delay and rise times	$t_d + t_r$	$I_C = 5\text{ A}, I_{B1} = 0.5\text{ A}$		300		ns
Storage time	t_s	$I_C = 5\text{ A}, I_{B1} = I_{B2} = 0.5\text{ A}$		500		ns
Fall time	t_f	$I_C = 5\text{ A}, I_{B1} = I_{B2} = 0.5\text{ A}$		140		ns

■ Marking

Marking	J44H11
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