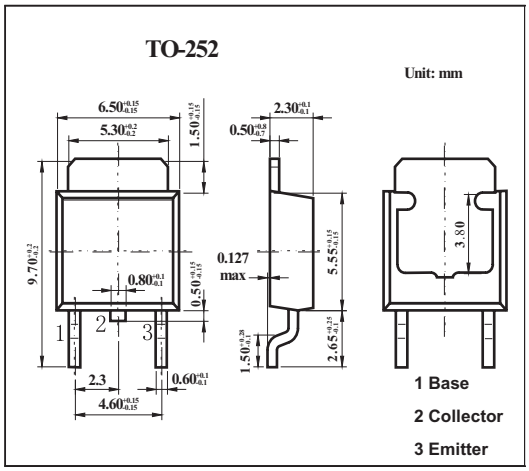
TY Semicondutor®

Product specification

MJD41C(NPN)
MJD42C(PNP)

■ Features

- Lead Formed for Surface Mount Applications in Plastic Sleeves
- Monolithic Construction With Built?in Base ? Emitter Resistors
- Pb-Free Packages are Available



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CEO}	100	V
Collector-base voltage	V_{CB}	100	V
Emitter-base voltage	V_{EB}	5	V
Collector current	I_C	6	A
Collector current (pulse)	I_{CP}	10	A
Base current	I_B	2	A
Total Device Dissipation FR-5 Board @T_A = 25℃ Derate above 25℃	P_D	 20 0.16	 W W/℃
Total Device Dissipation Alumina Substrate @T_A = 25℃ Derate above 25℃	P_D	 1.75 0.014	 W W/℃
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-65 to +150	℃
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	6.25	℃/W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	71.4	℃/W

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter sustaining voltage	$V_{CEo(sus)}$	I_C = 30 mA, I_B = 0	100			V
Collector cutoff current	I_{CEO}	V_{CE} = 60 V, I_B = 0			50	μA
Collector cutoff current	I_{CES}	V_{CE} = 100 V,V_{EB} = 0			10	μA
Emitter cutoff current	I_{EBO}	V_{BE} = 5V, I_C = 0			0.5	mA
DC current gain *	h_{FE}	I_C = 0.3 A, V_{CE} = 4 V	30			
		I_C = 3 A, V_{CE} = 4 V	15		75	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 6 A, I_B = 600 mA			1.5	V
Base-emitter saturation voltage *	$V_{BE(on)}$	I_C = 6 A, V_{CE} = 4 V			2	V
Current-gain-bandwidth product *2	f_T	I_C = 500 mA,V_{CE} = 10 V,f_{test} = 1 MHz	3			MHz
Small-signal current gain	h_{fe}	I_C = 0.5 A, V_{CE} = 10 V, f = 1 kHz	20			

*1 Pulse test: pulse width ⩽ 300 μs, duty cycle ⩽ 2.0%.

*2 $f_T = |h_{fe}| f_{test}$

■ h_{FE} Classification

TYPE	MJD41C	MJD42C
Marking	J41C	J42C