



## NPN MJ4033 – MJ4034 – MJ4035

### MEDIUM POWER COMPLEMENTARY SILICON TRANSISTORS

They are silicon epitaxial-base NPN power transistors in monolithic Darlington configuration and are mounted in Jedec TO-3 metal case.

They are intended for use as output devices in complementary general purpose amplifier applications.

The complementary PNP types are the MJ4030, MJ4031, MJ4032.

Compliance to RoHS

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
$V_{CBO}$	Collector-Base Voltage	$I_E=0$	MJ4033	60	V
			MJ4034	80	
			MJ4035	100	
$V_{CEO}$	Collector-Emitter Voltage	$I_B=0$	MJ4033	60	V
			MJ4034	80	
			MJ4035	100	
$V_{EBO}$	Emitter-Base Voltage	$I_C=0$	MJ4033	5.0	V
			MJ4034		
			MJ4035		
$I_C$	Collector Current		16	A	
$I_B$	Base Current		0.5	A	
$P_T$	Power Dissipation	@ $T_C < 25^\circ$	150	W	
$T_J$	Junction Temperature		200	°C	
$T_s$	Storage Temperature		-65 to +200		

#### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ-C}$	Thermal Resistance, Junction to Case	1.17	°C/W

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### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

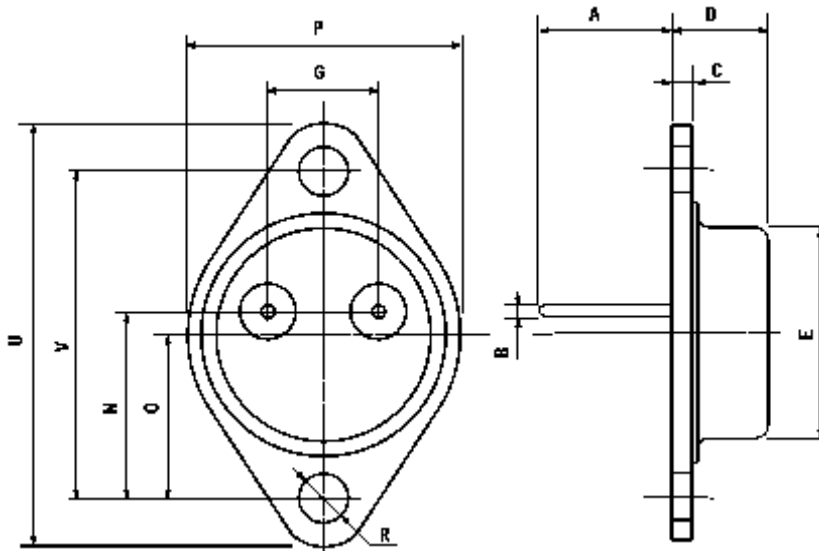
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
$V_{CEO}$	Collector-Emitter Voltage (*)	$I_C=100\text{ mA}, I_B=0$	MJ4033	60	-	-	V
			MJ4034	80	-	-	
			MJ4035	100	-	-	
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=30\text{ Vdc}, I_B=0$	MJ4033	-	-	3.0	mA
		$V_{CE}=40\text{ Vdc}, I_B=0$	MJ4034	-	-		
		$V_{CE}=50\text{ V}, I_B=0$	MJ4035	-	-		
$I_{EBO}$	Emitter Cutoff Current	$V_{BE}=5.0\text{ V}, I_C=0$	MJ4033	-	-	5.0	mA
			MJ4034				
			MJ4035				
$I_{CER}$	Collector-Emitter Leakage Current	$V_{CB}=60\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$	MJ4033	-	-	1.0	mAdc
		$V_{CB}=80\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$	MJ4034	-	-		
		$V_{CB}=100\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$	MJ4035	-	-		
		$V_{CB}=60\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$ $T_C=150^\circ\text{C}$	MJ4033	-	-	5.0	
		$V_{CB}=80\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$ $T_C=150^\circ\text{C}$	MJ4034	-	-		
		$V_{CB}=100\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$ $T_C=150^\circ\text{C}$	MJ4035	-	-		
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=10\text{ A}$ $I_B=40\text{ mA}$	MJ4033	-	-	2.5	Vdc
			MJ4034				
			MJ4035				
		$I_C=16\text{ A}$ $I_B=80\text{ mA}$	MJ4033	-	-	4.0	
			MJ4034				
			MJ4035				
$V_{BE}$	Base-Emitter Voltage (*)	$I_C=10\text{ A}$ $V_{CE}=3.0\text{ V}$	MJ4033	-	-	3	V
			MJ4034				
			MJ4035				
$h_{FE}$	DC Current Gain (*)	$V_{CE}=10\text{ V}$ $I_C=3.0\text{ A}$	MJ4033	1000	-	-	-
			MJ4034				
			MJ4035				

(\*) Pulse Width  $\approx 300\ \mu\text{s}$ , Duty Cycle  $\angle 2.0\%$

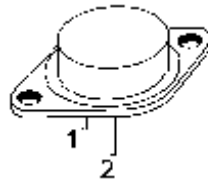
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### MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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