

- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES
- MONOLITHIC DARLINGTON CONFIGURATION
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

The MJ4035 is a silicon Epitaxial-Base NPN power transistor in monolithic Darlington configuration mounted in Jedec TO-3 metal case. It is intended for use in general purpose and amplifier applications.

TO-3

The figure shows two circuit diagrams for comparators, labeled SC08840 and SC08850. Both diagrams are enclosed in dashed boxes and show a similar internal structure with two input resistors, R_1 and R_2 , and a feedback network. The input B is connected to the non-inverting input of the first op-amp, and the input (1) is connected to the inverting input of the first op-amp. The output of the first op-amp is connected to the non-inverting input of the second op-amp, and the output of the second op-amp is connected to the inverting input of the first op-amp. The output of the second op-amp is also connected to the output C (TAB) and the output (2) . The output (2) is connected to the output C (TAB) through a diode. The output C (TAB) is connected to the output (2) through a diode.

SC08840

SC08850

R_1 Typ. = 6 K Ω

R_2 Typ. = 55 Ω

Symbol	Parameter	Value		Unit
		PNP	MJ4032	
		NPN	MJ4035	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	100		V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	100		V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	5		V
I_C	Collector Current	16		A
I_B	Base Current	0.5		A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ\text{C}$	150		W
T_{stg}	Storage Temperature	-65 to 200		$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	200		$^\circ\text{C}$

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THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.17	°C/W
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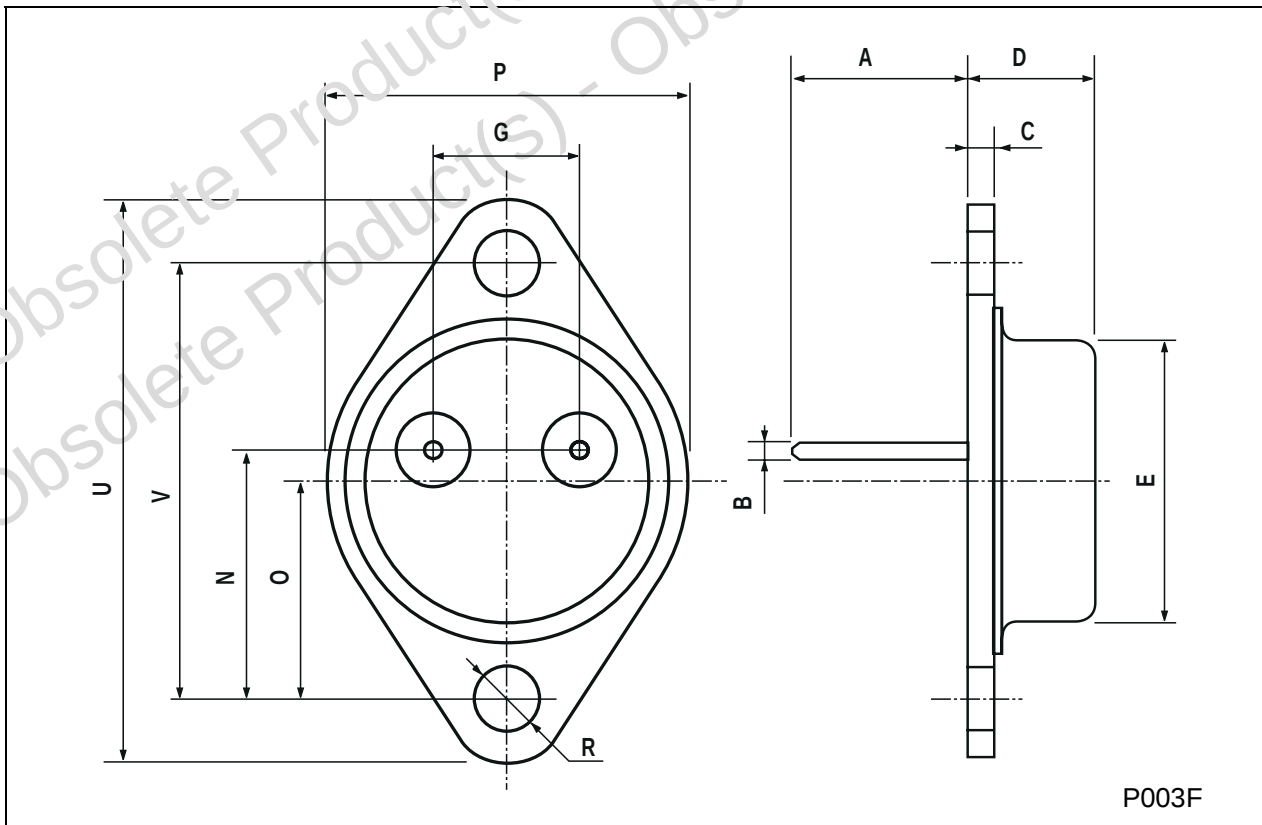
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CER}	Collector Cut-off Current (R _{BE} = 1KΩ)	V _{CE} = 100 V V _{CE} = 100 V T _C = 150 °C			1 5	mA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 50 V			3	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			5	mA
V _{(BR)CEO} *	Collector-Emitter Breakdown Voltage	I _C = 100 mA	100			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 10 A I _B = 40 mA I _C = 16 A I _B = 80 mA			2.5 4	V V
V _{BE} *	Base-Emitter Voltage	I _C = 10 A V _{CE} = 3 V			3	V
h _{FE} *	DC Current Gain	I _C = 10 A V _{CE} = 3 V	1000			

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %
For PNP type voltage and current values are negative.

TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



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