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MJ4032
MJ4035

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

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

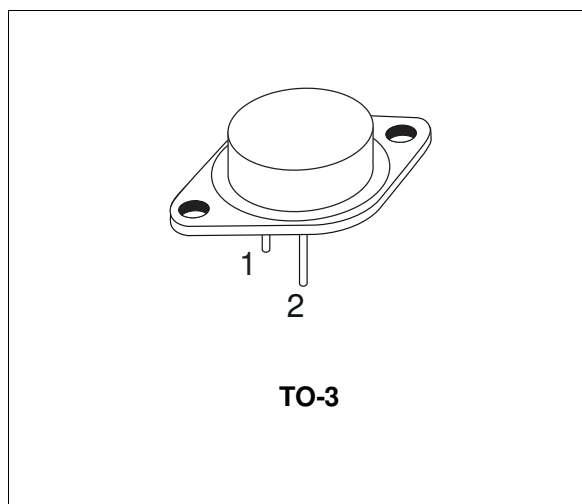
APPLICATIONS

- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

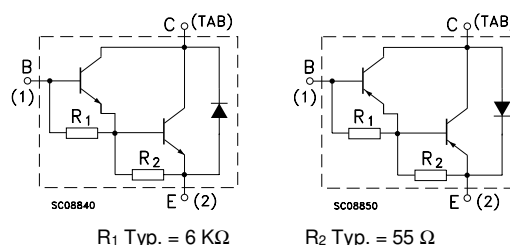
DESCRIPTION

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.

The complementary PNP type is the MJ4032.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	PNP	Value	Unit
		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	$^\circ\text{C}$

For PNP types voltage and current values are negative.

THERMAL DATA

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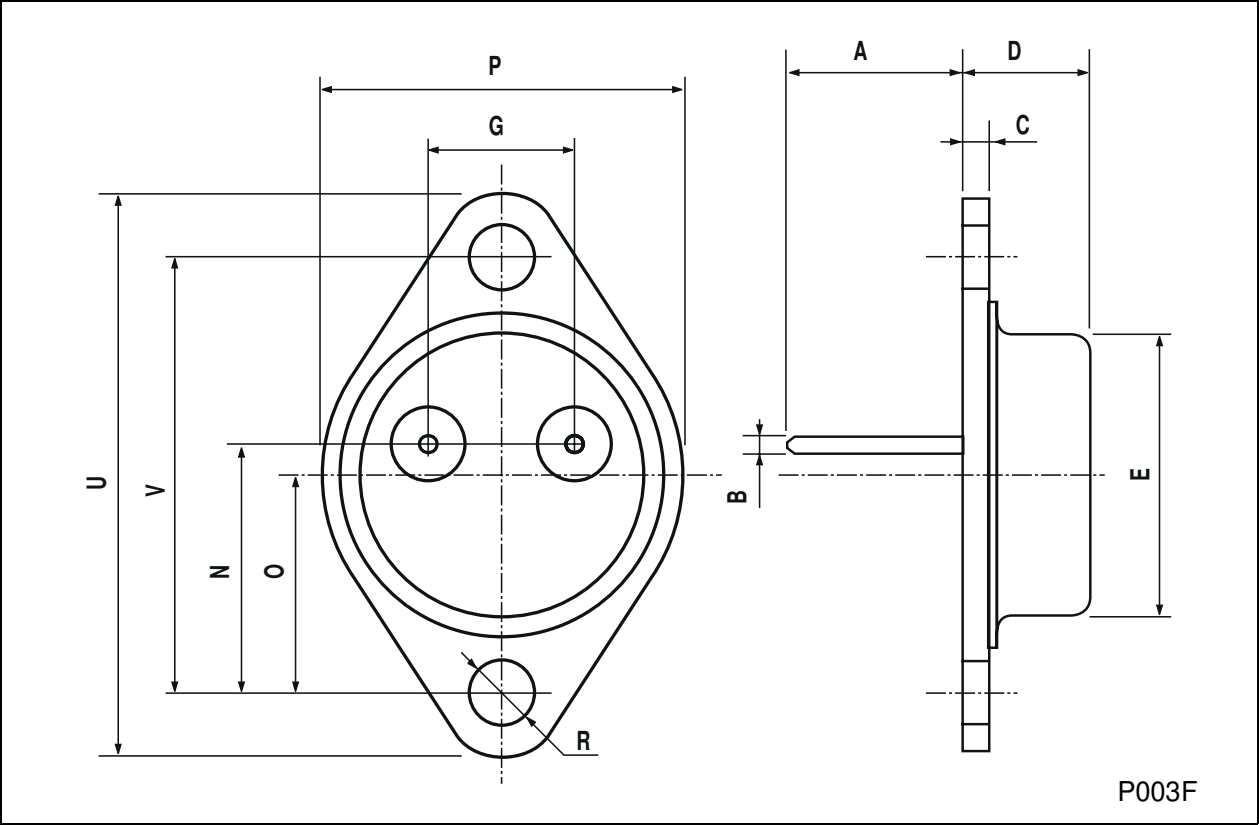
ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector Cut-off Current ($R_{BE} = 1K\Omega$)	$V_{CE} = 100\text{ V}$ $V_{CE} = 100\text{ V}$ $T_C = 150\text{ °C}$			1 5	mA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 50\text{ V}$			3	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			5	mA
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage	$I_C = 100\text{ mA}$	100			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 10\text{ A}$ $I_B = 40\text{ mA}$ $I_C = 16\text{ A}$ $I_B = 80\text{ mA}$			2.5 4	V V
V_{BE}^*	Base-Emitter Voltage	$I_C = 10\text{ A}$ $V_{CE} = 3\text{ V}$			3	V
h_{FE}^*	DC Current Gain	$I_C = 10\text{ A}$ $V_{CE} = 3\text{ V}$	1000			

* Pulsed: Pulse duration = 300 μ s, 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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