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Jameco Part Number 38308TI

TYPE 2N3055

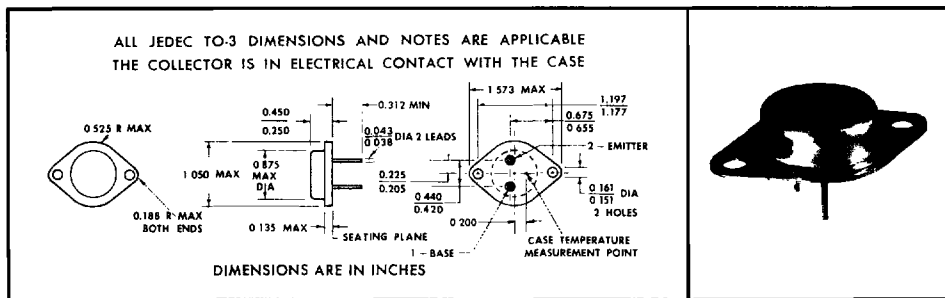
N-P-N SINGLE-DIFFUSED MESA SILICON POWER TRANSISTOR

TYPE 2N3055
 BULLETIN NO. DL-S-719659, AUGUST 1967
 REVISED DECEMBER 1971

FOR POWER-AMPLIFIER APPLICATIONS

- 115 W at 25°C Case Temperature
- Max I_C of 15 A
- Min f_{hfe} of 20 kHz

***mechanical data**



***absolute maximum ratings at 25°C case temperature (unless otherwise noted)**

Collector-Base Voltage	100 V
Collector-Emitter Voltage (See Note 1)	70 V
Emitter-Base Voltage	7 V
Continuous Collector Current	15 A
Continuous Base Current	7 A
Continuous Device Dissipation at (or below) 25°C Case Temperature (See Note 2)	115 W
Operating Case Temperature Range	-65°C to 200°C
Storage Temperature Range	-65°C to 200°C
Lead Temperature 1/2 Inch from Case for 10 Seconds	235°C

- NOTES: 1. This value applies when the base-emitter resistance $R_{BE} = 100 \Omega$.
2. Derate linearly to 200°C case temperature at the rate of 0.66 W/deg.

*Indicates JEDEC registered data

TYPE 2N3055

N-P-N SINGLE-DIFFUSED MESA SILICON POWER TRANSISTOR

*electrical characteristics at 25°C case temperature (unless otherwise noted)

PARAMETER		TEST CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 200 \text{ mA}$, $I_B = 0$, See Note 4	60		V
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage	$I_C = 200 \text{ mA}$, $R_{BE} = 100 \Omega$	70		V
I_{CEO}	Collector Cutoff Current	$V_{CE} = 30 \text{ V}$, $I_B = 0$		0.7	mA
I_{CEY}	Collector Cutoff Current	$V_{CE} = 100 \text{ V}$, $V_{BE} = -1.5 \text{ V}$		5	mA
		$V_{CE} = 100 \text{ V}$, $V_{BE} = -1.5 \text{ V}$, $T_C = 150^\circ\text{C}$		30	
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 7 \text{ V}$, $I_C = 0$		5	mA
h_{FE}	Static Forward Current Transfer Ratio	$V_{CE} = 4 \text{ V}$, $I_C = 4 \text{ A}$, See Notes 3 and 4	20	70	
		$V_{CE} = 4 \text{ V}$, $I_C = 10 \text{ A}$, See Notes 3 and 4	5		
V_{BE}	Base-Emitter Voltage	$V_{CE} = 4 \text{ V}$, $I_C = 4 \text{ A}$, See Notes 3 and 4		1.8	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_B = 400 \text{ mA}$, $I_C = 4 \text{ A}$, See Notes 3 and 4		1.1	V
		$I_B = 3.3 \text{ A}$, $I_C = 10 \text{ A}$, See Notes 3 and 4		8	
h_{fe}	Small-Signal Common-Emitter Forward Current Transfer Ratio	$V_{CE} = 4 \text{ V}$, $I_C = 1 \text{ A}$, $f = 1 \text{ kHz}$	15	60	
f_{hfe}	Small-Signal Common-Emitter Forward Current Transfer Ratio Cutoff Frequency	$V_{CE} = 4 \text{ V}$, $I_C = 1 \text{ A}$, See Note 5	10		kHz

NOTES: 3. These parameters must be measured using pulse techniques. $I_p = 300 \mu\text{s}$, duty cycle $\leq 2\%$.

4. These parameters are measured with voltage-sensing contacts separate from the current-carrying contacts.

5. f_{hfe} is the frequency at which the magnitude of the small-signal forward current transfer ratio is 0.707 of its low-frequency value. For this device, the reference measurement is made at 1 kHz.

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thermal characteristics

PARAMETER		MAX	UNIT
$\theta_{J,C}$	Junction-to-Case Thermal Resistance	1.52	deg/W

PRINTED IN U.S.A.

1271