

Silicon NPN Transistor

2N3055

Power Linear and Switching

60V / 15A

DATASHEET

OEM –SGS Ates

Source: SGS Ates Databook 1977

2N 3055**SINGLE-DIFFUSED MESA NPN****POWER LINEAR AND SWITCHING APPLICATIONS**

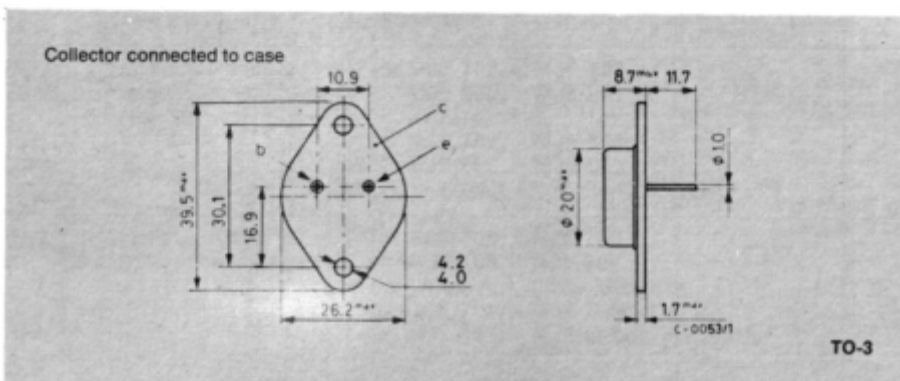
The 2N 3055 is a silicon single-diffused mesa NPN transistor in Jedec TO-3 metal case. It is intended for power switching circuits, series and shunt regulators output stages and high fidelity amplifiers.

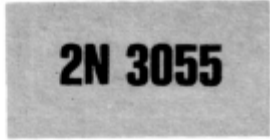
ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	100	V
V_{CER}	Collector-emitter voltage ($R_{BE} = 100\Omega$)	70	V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	60	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	7	V
I_C	Collector current	15	A
I_B	Base current	7	A
P_{tot}	Total power dissipation at $T_{case} \leq 25^\circ\text{C}$	115	W
T_{stg}	Storage temperature	-65 to 200	$^\circ\text{C}$
T_j	Junction temperature	200	$^\circ\text{C}$

MECHANICAL DATA

Dimensions in mm





THERMAL DATA

$R_{th(j-case)}$	Thermal resistance junction-case	max	1.5	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit	
I_{CEV}	Collector cutoff current ($V_{BE} = -1.5V$)	$V_{CE} = 100\text{ V}$ $V_{CE} = 100\text{ V}$		5 30	mA mA	
I_{CEO}	Collector cutoff current ($I_B = 0$)	$V_{CE} = 30\text{ V}$		0.7	mA	
I_{EBO}	Emitter cutoff current ($I_C = 0$)	$V_{EB} = 7\text{ V}$		5	mA	
$V_{CER(sus)}$ *	Collector-emitter sust. voltage ($R_{BE} = 100\Omega$)	$I_C = 200\text{ mA}$		70	V	
$V_{CEO(sus)}$ *	Collector-emitter sust. voltage ($I_B = 0$)	$I_C = 200\text{ mA}$		60	V	
$V_{CE(sat)}$ *	Collector-emitter saturation voltage	$I_C = 4\text{ A}$ $I_C = 10\text{ A}$	$I_B = 400\text{ mA}$ $I_B = 3.3\text{ A}$	1 3	V V	
V_{BE} *	Base-emitter voltage	$I_C = 4\text{ A}$	$V_{CE} = 4\text{ V}$	1.5	V	
h_{FE} *	DC current gain					
	Group 4	$I_C = 0.5\text{ A}$	$V_{CE} = 4\text{ V}$	20	50	—
	Group 5	$I_C = 0.5\text{ A}$	$V_{CE} = 4\text{ V}$	35	75	—
	Group 6	$I_C = 0.5\text{ A}$	$V_{CE} = 4\text{ V}$	60	145	—
	Group 7	$I_C = 0.5\text{ A}$	$V_{CE} = 4\text{ V}$	120	250	—
		$I_C = 4\text{ A}$	$V_{CE} = 4\text{ V}$	20	70	—
		$I_C = 10\text{ A}$	$V_{CE} = 4\text{ V}$	5	—	—
h_{FE1}/h_{FE2} *	Matched pair	$I_C = 0.5\text{ A}$	$V_{CE} = 4\text{ V}$		1.6	—
f_T	Transition frequency	$I_C = 1\text{ A}$	$V_{CE} = 4\text{ V}$	0.8		MHz
$I_{s,b}$ **	Second breakdown collector current	$V_{CE} = 40\text{ V}$		2.87		A

* Pulsed: pulse duration = 300 μ s, duty cycle = 1.5%

** Pulsed: 1s, non repetitive pulse