

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
 SPRINGFIELD, NEW JERSEY 07081
 U.S.A.

TELEPHONE: (201) 376-2922
 (212) 227-6005
 FAX: (201) 376-8960

High-Current, High-Speed, High-Power Transistors

2N6033

ELECTRICAL CHARACTERISTICS, Case Temperature (T_C) = 25°C Unless Otherwise Specified

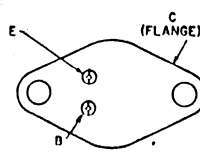
CHARACTERISTIC	SYMBOL	TEST CONDITIONS				LIMITS		UNITS
		VOLTAGE		CURRENT		2N6033		
		V _{dc}		A _{dc}		Min	Max.	
Collector-Cutoff Current: With base open	I _{CEO}	80	-	-	0	-	10	mA
With base emitter junction reverse biased	I _{CEV}	110	-1.5	-	-1	-	-	mA
		135	-1.5	-	-	-	10	mA
T _C = 150°C		100	-1.5	-	-	-	10	mA
Emitter-Cutoff Current	I _{EBO}	-	-7	0	-	-	10	mA
Collector-to-Emitter Sustaining Voltage: (See Figs. 12 & 13)	V _{CE0(sus)}	-	-	0.2 ^b	0	120 ^a	-	V
With base open	V _{CER(sus)}	-	-	0.2 ^b	0	140 ^a	-	
With external base to emitter resistance (R _{BE}) ≤ 50 Ω	V _{CEx(sus)}	-	-1.5	0.2 ^b	0	150 ^a	-	
With base-emitter junction reverse biased & R _{BE} ≤ 50 Ω								
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	-	-	50 ^b	5	-	-	V
		-	-	40 ^b	4	-	2	
Base-to-Emitter Voltage	V _{BE}	2	-	50 ^b	-	-	-	V
		2	-	40 ^b	-	-	2	
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	-	-	50 ^b	5	-	-	V
		-	-	40 ^b	4	-	1	
DC Forward-Current Transfer Ratio	h _{FE}	2	6	-	50 ^b	-	-	
		2	-	40 ^b	-	10	50	
Second-Breakdown Collector Current With base forward biased, t = 1 s nonrepetitive	I _{S'b}	24	-	-	-	5.8 ^c	-	A
		40	-	-	-	0.9 ^c	-	
Second-Breakdown Energy With base reverse biased (L = 310 μH, R _{BE} = 5 Ω)	E _{S'b}	-	-4	20	-	62	-	mJ
Magnitude of common-emitter small-signal, short-circuit, forward-current transfer ratio f = 5 MHz	h _{fe}	10	-	2	-	10	-	
Gain-Bandwidth Product f = 5 MHz	f _T	10	-	2	-	50	-	MHz
Output Capacitance: V _{CB} = 10 V, f = 1 MHz	C _{ob}	-	-	-	-	-	800	pF
Thermal Resistance (Junction-to-Case)	R _{θJC}	10	-	10	-	-	1.25	°C/W

^aIn accordance with JEDEC registration format JS-6 RDF-1.

^cCAUTION: The sustaining voltages V_{CE0(sus)}, V_{CER(sus)}, and V_{CEx(sus)} MUST NOT be measured on a curve tracer.

^bPulsed: Pulse duration 300 μs; duty factor ≤ 2%.

TERMINAL DESIGNATIONS



Modified JEDEC TO-3