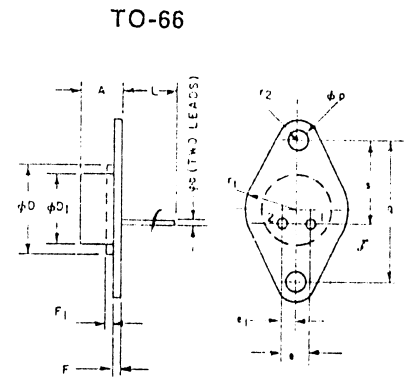


High-Speed,
Silicon N-P-N

MAXIMUM RATINGS, Absolute-Maximum Values:

*COLLECTOR-TO-BASE VOLTAGE	V _{CB0}	100	V
COLLECTOR-TO-EMITTER SUSTAINING VOLTAGE: With external base-to-emitter resistance (R _{BE}) = 50 Ω	V _{CER(sus)}	75*	V
With base open	V _{CEO(sus)}	50	V
*EMITTER-TO-BASE VOLTAGE	V _{EBO}	6	V
*CONTINUOUS COLLECTOR CURRENT	I _C	4	A
PEAK COLLECTOR CURRENT	I _{CM}	5	A
*CONTINUOUS BASE CURRENT	I _B	2	A
*TRANSISTOR DISSIPATION: At case temperature (T _C) = 25°C	P _T	35	W
At case temperatures above 25°C	Derate linearly at 0.2 W/°C		
For other conditions			
*TEMPERATURE RANGE: Storage & operating (Junction)		-65 to 200	°C
*PIN TEMPERATURE: 1/32 in. (0.8 mm) from seating plane for 10 s max.		235	°C

Dimensional Outlines



ELECTRICAL CHARACTERISTICS, At Case Temperature (T_C) = 25°C unless otherwise specified:

CHARACTERISTIC	SYMBOL	TEST CONDITIONS				LIMITS		UNITS
		VOLTAGE V dc		CURRENT A dc		2N5202		
		V _{CE}	V _{BE}	I _C	I _B	Min.	Max.	
Collector Cutoff Current: With base-emitter junction reverse-biased	I _{CEV}	100	-1.5			-	10	mA
With base-emitter junction reverse-biased and T _C = 150°C		100	-1.5			-	10	
Emitter Cutoff Current	I _{EBO}		-6			-	10	mA
Collector-to-Emitter Sustaining Voltage With base open	V _{CEO(sus)}			0.2	0	50 ^a	-	V
With external base-to-emitter resistance (R _{BE}) = 50 Ω	V _{CER(sus)}			0.2	0	75 ^a	-	
DC Forward-Current Transfer Ratio	h _{FE}	1.2		4 ^b		10*	100*	
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}			4 ^b	0.4	-	1.2	V
Base-to-Emitter Voltage	V _{BE}	2		4 ^b	-	-	-	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}			4 ^b	0.4	-	2	V
Collector-to-Base Output Capacitance (f = 1 MHz, V _{CB} = 10 V)	C _{ob}					-	175	pF
Second Breakdown Collector Current With base forward-biased and 1-s nonrepetitive pulse	I _{S/B}	40				400	-	mA
Magnitude of Common Emitter, Small-Signal, Short-Circuit, Forward-Current Transfer Ratio (f = 10 MHz)	h _{fe}	10		0.5		6	-	
Thermal Resistance Junction-to-case	R _{θJC}					-	5	°C/W

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	.250	.340	6.35	8.63	3
β _h	.028	.034	.712	.863	
φ/D	-	.620	-	15.74	
e	.470	.500	11.94	12.70	4
e ₁	.190	.210	4.83	5.33	
F	.093	.107	2.37	2.71	3
F ₁	.050	.075	1.27	1.90	
L	-	.050	-	1.27	
φ/P	.360	-	9.15	-	
q	.142	.162	3.61	4.08	
r ₁	.950	.970	24.13	24.63	
r ₂	-	.350	-	8.89	
s	-	.145	-	.368	
S	.570	.590	14.48	14.98	

- 3. Package contour optional within dimensions specified.
- 4. Dimension does not include sealing flanges.
- 5. Controlling dimensions: inch.

