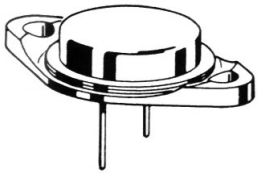
MOTOROLA

2N3232 (SILICON)
2N3235



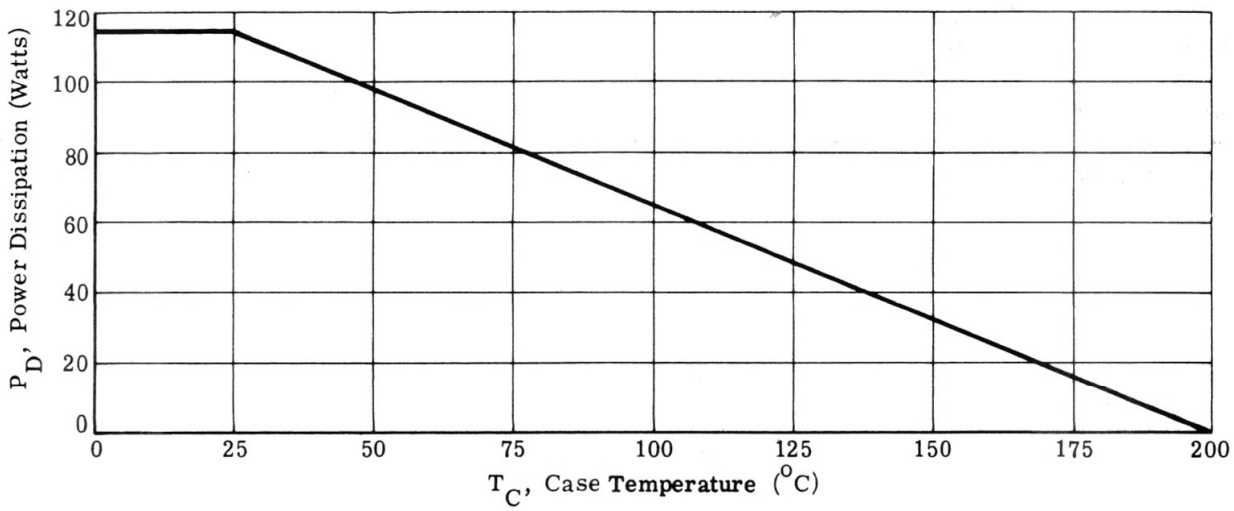
NPN silicon power transistors designed for switching and amplifier applications.

CASE 11
(TO-3)

MAXIMUM RATINGS

Rating	Symbol	2N3232	2N3235	Units
Collector-Base Voltage	V_{CB}	60	55	Vdc
Collector-Emitter Voltage	V_{CEO}	60	55	Vdc
Emitter-Base Voltage	V_{EB}	6.0	7.0	Vdc
Collector Current (Continuous)	I_C	7.5	15	Adc
Base Current (Continuous)	I_B	3.0	7.0	Adc
Power Dissipation	P_D	117		Watts
Thermal Resistance, Junction to Case	θ_{JC}	1.5		$^oC/W$
Junction Operating Temperature Range	T_J	-65 to +200		^oC

FIGURE 1 — POWER-TEMPERATURE DERATING CURVE



2N3232, 2N3235 (continued)

ELECTRICAL CHARACTERISTICS (Tc = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
Emitter-Base Cutoff Current		I_{EBO}			mAdc
(V_{EB} = 6.0 Vdc)	2N3232		-	1.0	
(V_{EB} = 7.0 Vdc)	2N3235		-	5.0	
Collector-Emitter Cutoff Current		I_{CEX}			mAdc
(V_{CE} = 60 Vdc, V_{BE} = -1.5 Vdc)	2N3232		-	1.0	
	2N3235		-	1.0	
(V_{CE} = 30 Vdc, V_{BE} = -1.5 Vdc, T_C = 150°C)	2N3232		-	5.0	
	2N3235		-	5.0	
Collector-Emitter Sustaining Voltage*		$V_{CEO(sus)}$*			Vdc
(I_C = 100 mAdc, I_B = 0)	2N3232		60	-	
	2N3235		55	-	
Collector Current		I_{CEO}			mAdc
(V_{CE} = 60 Vdc, I_B = 0)	2N3232		-	10	
(V_{CE} = 55 Vdc, I_B = 0)	2N3235		-	10	
DC Current Gain*		h_{FE}			-
(I_C = 1.5 Adc, V_{CE} = 10 Vdc)	2N3232		18	-	
(I_C = 3.0 Adc, V_{CE} = 10 Vdc)	2N3232		18	55	
(I_C = 2 Adc, V_{CE} = 4 Vdc)	2N3235		20	-	
(I_C = 4 Adc, V_{CE} = 4 Vdc)	2N3235		20	70	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$			Vdc
(I_C = 3.0 Adc, I_B = 0.2 Adc)	2N3232		-	2.5	
(I_C = 4.0 Adc, I_B = 0.4 Adc)	2N3235		-	1.1	
Base-Emitter Voltage*		V_{BE}			Vdc
(I_C = 3.0 Adc, V_{CE} = 10 Vdc)	2N3232		-	3.5	
(I_C = 4.0 Adc, V_{CE} = 4 Vdc)	2N3235		-	1.8	
Small Signal Current Gain		h_{fe}			-
(V_{CE} = 10 Vdc, I_C = 3.0 Adc, f = 1.0 MHz)	2N3232		1.0	-	
(V_{CE} = 4 Vdc, I_C = 4.0 Adc, f = 1.0 MHz)	2N3235		1.0	-	

*Use sweep test to prevent overheating.