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2N6059

Silicon NPN Power Darlington Transistor TO-3 Type Case

Description:

The 2N6059 is a silicon NPN Darlington transistor in a TO-3 type case designed for general-purpose amplifier and low-frequency switching applications.

Absolute Maximum Ratings:

Collector-Base Voltage ($I_E = 0$), V_{CBO} 100V
Collector-Emitter Voltage ($V_{BE} = -1.5V$), V_{CEX} 100V
Collector Emitter Voltage ($I_B = 0$), V_{CEO} 100V
Emitter-Base Voltage ($I_C = 0$), V_{EBO} 5V
Collector Current, I_C
 Continuous 12A
 Peak 20A
Base Current, I_B 200mA
Total Dissipation ($T_C \leq 25^\circ C$), P_{tot} 150W
Max. Operating Junction Temperature Range, T_J $+200^\circ C$
Storage Temperature Range, T_{stg} -65° to $+200^\circ C$
Max. Thermal Resistance, Junction-to-Case, R_{thJC} $1.17^\circ C/W$

Electrical Characteristics: ($T_C = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CEX}	$V_{CE} = 100V, V_{BE} = -1.5V$	-	-	0.5	mA
		$T_C = +150^\circ C$	-	-	5.0	mA
	I_{CEO}	$V_{CE} = 50V, I_B = 0$	-	-	1	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 5V, I_C = 0$	-	-	2.0	mA
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 100mA$, Note 1	100	-	-	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6A, I_B = 24mA$, Note 1	-	-	2	V
		$I_C = 12A, I_B = 120mA$, Note 1	-	-	3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 6A, V_{CE} = 3V$, Note 1	-	-	2.8	V
DC Current Gain	h_{FE}	$V_{CE} = 3V$, Note 1				
		$I_C = 6A$	750	-	-	
		$I_C = 12A$	100	-	-	
Transition Frequency	f_T	$I_C = 5A, V_{CE} = 3V, f = 1MHz$	4	-	-	MHz

Note 1. Pulse Test: Pulse Width = 300 μs , Duty Cycle = 1.5%

