

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Ratings	Symbol	2N6546	2N6547	Unit
Collector-emitter voltage	V_{CE}	300	400	V
Collector-emitter voltage	V_{CEV}	650	850	V
Emitter-base voltage	V_{EBO}	9.0		V
Collector current – continuous	I_C	15		A
Peak ⁽¹⁾		30		
Base current – continuous	I_B	10		A
Emitter current – continuous	I_E	25		A
Peak		50		
Total power dissipation @ $T_C = 25^\circ\text{C}$	P_T	175		W
Derate above 25°C		1.0		
Operating junction and storage temperature range	T_J, T_{stg}	-65 to +200		$^\circ\text{C}$
THERMAL CHARACTERISTICS				
Maximum thermal resistance, junction-to-case	$R_{\theta JC}$	1.0		$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Characteristics	Symbol	Min.	Max.	Unit	
OFF CHARACTERISTICS					
Collector-emitter sustaining voltage ⁽¹⁾ $I_C = 200\text{mA}, I_B = 0$	2N6546 2N6547	$V_{(BR)SUS}$	300 400	- - V	
Collector cutoff current $V_{CEV} = 650\text{V}, V_{BE(OFF)} = 1.5\text{V}$ $V_{CEV} = 850\text{V}, V_{BE(OFF)} = 1.5\text{V}$ $V_{CEV} = 650\text{V}, V_{BE(OFF)} = 1.5\text{V}, T_C = 100^\circ\text{C}$ $V_{CEV} = 850\text{V}, V_{BE(OFF)} = 1.5\text{V}, T_C = 100^\circ\text{C}$	2N6546 2N6547 2N6546 2N6547	I_{CEO}	- - - -	1.0 1.0 4.0 4.0 mA	
Emitter cutoff current $V_{EB} = 8\text{V}, I_C = 0$			I_{EBO}	-	1.0 mA
ON-CHARACTERISTICS⁽¹⁾					
DC current gain $I_C = 5.0\text{A}, V_{CE} = 2.0\text{V}$ $I_C = 10\text{A}, V_{CE} = 2.0\text{V}$			h_{FE}	12 6.0	60 30 -
Collector-emitter saturation voltage $I_C = 10\text{A}, I_B = 2.0\text{A}$ $I_C = 15\text{A}, I_B = 3.0\text{A}$		$V_{CE(sat)}$	- -	1.5 5.0 V	
Base-emitter saturation voltage $I_C = 10\text{A}, I_B = 2.0\text{A}$		$V_{BE(sat)}$	-	1.6 V	
Current gain – bandwidth ⁽²⁾ $I_C = 500\text{mA}, V_{CE} = 10\text{V}, f = 1.0\text{MHz}$		f_T	6.0	35 MHz	

2N6546-2N6547

NPN SILICON POWER TRANSISTORS

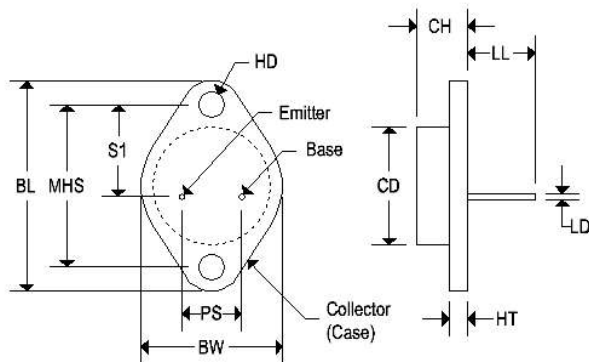
Characteristics	Symbol	Min.	Max.	Unit
SWITCHING CHARACTERISTICS				
Delay time	t_d	-	0.05	μs
Rise time	t_r	-	1.0	μs
Storage time	T_s	-	4.0	μs
Fall time	t_f	-	0.8	μs

Note 1: Pulse test: pulse width = 300 μs , duty cycle \leq 2.0%.

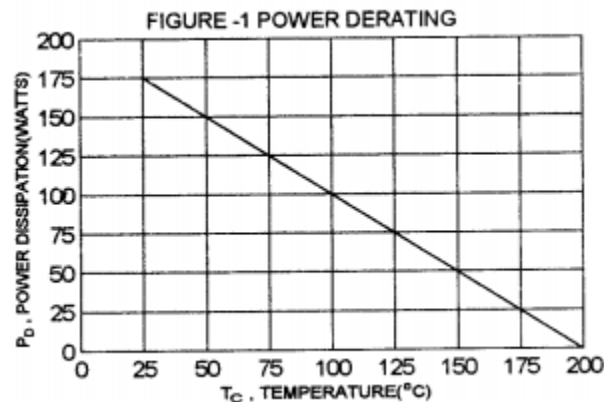
Note 2: I_{hfe1} * f_{est}

MECHANICAL CHARACTERISTICS

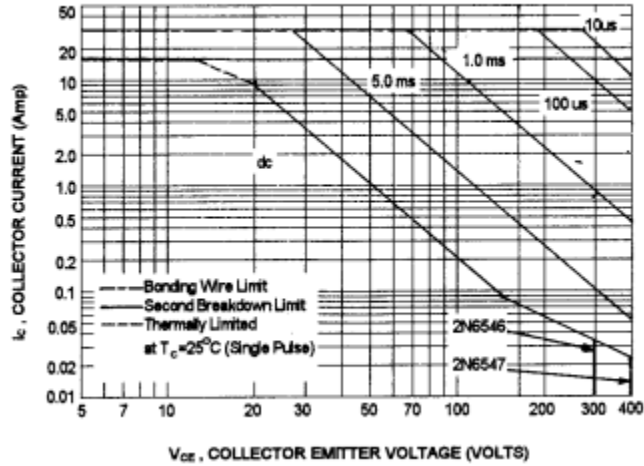
Case	TO-3
Marking	Alpha-numeric
Polarity	See below



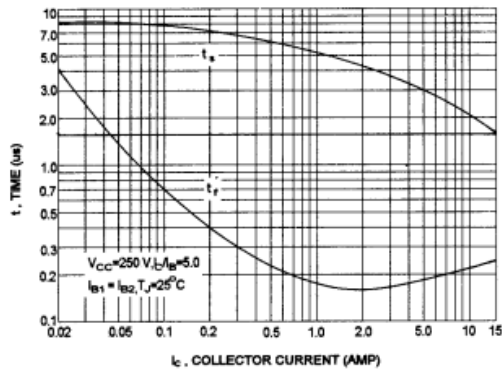
	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.335	6.350	8.510
HT	0.055	0.135	1.400	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150



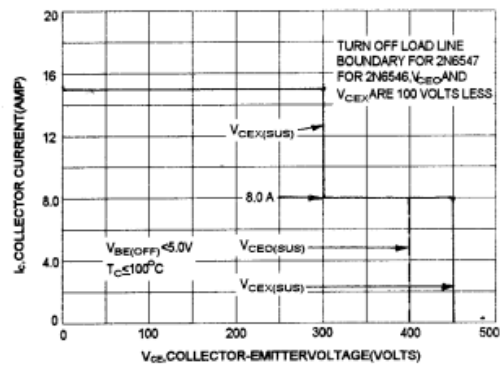
ACTIVE-REGION SAFE OPERATING AREA (SOA)



TURN-OFF TIME



REVERSE BIAS SAFE OPERATING AREA



TURN-ON TIME

