



PNP Darlington Power Silicon Transistor

2N6286 & 2N6287

Features

- Available in JANTX, and JANTXV per MIL-PRF-19500/505
- TO-3 (TO-204AA) Package



Maximum Ratings

Ratings	Symbol	2N6286	2N6287	Units
Collector - Emitter Voltage	V_{CEO}	-80	-100	Vdc
Collector - Base Voltage	V_{CBO}	-80	-100	Vdc
Emitter - Base Voltage	V_{EBO}	-7.0		Vdc
Base Current	I_B	-0.5		Adc
Collector Current	I_C	-20		Adc
Total Power Dissipation @ $T_A = +25\text{ }^{\circ}\text{C}$ ⁽¹⁾ @ $T_C = +100\text{ }^{\circ}\text{C}$	P_T	175		W
		87.5		W
Operating & Storage Junction Temperature Range	T_{op}, T_{stg}	-65 to +175		$^{\circ}\text{C}$

1) Derate linearly @ 1.17 mW / $^{\circ}\text{C}$ for $T_C > +25\text{ }^{\circ}\text{C}$

Thermal Characteristics

Characteristics	Symbol	Maximum	Units
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	0.857	$^{\circ}\text{C/W}$

Electrical Characteristics

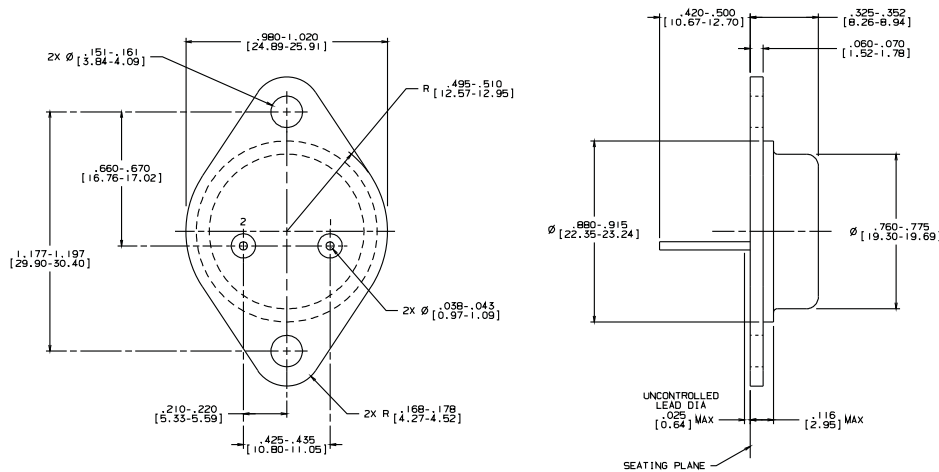
OFF Characteristics		Symbol	Minimum	Maximum	Units
Collector - Emitter Breakdown Voltage $I_C = -100\text{ mA}$	2N6286	$V_{(BR)CEO}$	-80	---	Vdc
	2N6287		-100		
Collector - Emitter Cutoff Current $V_{CE} = -40\text{ Vdc}$ $V_{CE} = -50\text{ Vdc}$	2N6286	I_{CEO}	---	-1.0	mA
	2N6287			-1.0	
Collector - Emitter Cutoff Current $V_{CE} = -80\text{ Vdc}, V_{BE} = 1.5\text{ Vdc}$ $V_{CE} = -100\text{ Vdc}, V_{BE} = 1.5\text{ Vdc}$	2N6286	I_{CEX}	---	-0.5	mA
	2N6287			-0.5	
Emitter - Base Cutoff Current $V_{EB} = -7.0\text{ Vdc}$		I_{EBO}	---	-2.0	mA

Electrical Characteristics -con't

ON Characteristics ⁽²⁾	Symbol	Minimum	Maximum	Units
Forward Current Transfer Ratio $I_C = -1.0 \text{ Adc}, V_{CE} = -3.0 \text{ Vdc}$ $I_C = -6.0 \text{ Adc}, V_{CE} = -3.0 \text{ Vdc}$ $I_C = -12 \text{ Adc}, V_{CE} = -3.0 \text{ Vdc}$	H_{FE}	1,000 1,000 150	18,000	
Collector - Emitter Saturation Voltage $I_C = -20 \text{ Adc}, I_B = -200 \text{ mAdc}$ $I_C = -10.0 \text{ Adc}, I_B = -40 \text{ mAdc}$	$V_{CE(sat)}$	- - - - - -	-3.0 -2.0	Vdc
Base - Emitter Saturation Voltage $I_C = -20 \text{ Adc}, I_B = -200 \text{ mAdc}$	$V_{BE(sat)}$	- - -	-4.0	Vdc
Base - Emitter Voltage $I_C = -10.0 \text{ Adc}, I_B = -3.0 \text{ Adc}$	$V_{BE(sat)}$	- - -	-2.8	Vdc
DYNAMIC Characteristics				
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = -10 \text{ Adc}, V_{CE} = -3.0 \text{ Vdc}, f = 1.0 \text{ MHz}$	$ h_{fe} $	8.0	80	
Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = -10 \text{ Adc}, V_{CE} = -3.0 \text{ Vdc}$	h_{fe}	300	- - -	
Output Capacitance $V_{CB} = -10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{obo}	- - -	400	pF
Switching Characteristic				
Turn-On Time $V_{CC} = -30 \text{ Vdc}, I_C = -10 \text{ Adc}, I_B = -40 \text{ mAdc}$	t_{on}	- - -	2.0	μs
Turn-Off Time $V_{CC} = -30 \text{ Vdc}, I_C = -10 \text{ Adc}, I_B = -40 \text{ mAdc}$	t_{off}	- - -	10	μs
SAFE OPERATING AREA				
DC Tests: $T_C = +25^\circ\text{C}, 1 \text{ Cycle}, t = 1.0 \text{ s}$ Test 1: $V_{CE} = -8.75 \text{ Vdc}, I_C = -20 \text{ Adc}$ All Types Test 2: $V_{CE} = -30.0 \text{ Vdc}, I_C = -5.8 \text{ Adc}$ All Types Test 3: $V_{CE} = -80.0 \text{ Vdc}, I_C = -100 \text{ mAdc}$ 2N6286 $V_{CE} = -100.0 \text{ Vdc}, I_C = -100 \text{ mAdc}$ 2N6287				

(2) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

Outline Drawing



- NOTES:
1. STANDARD HEADER TYPE SOLID BASE.
 2. STANDARD LEAD FINISH PER MIL-M-38510 TYPE X OR EQUIVALENT.
 3. LEAD NOT BENT GREATER THAN 15°.
 4. DIMENSIONS BASED ON JEDEC STANDARD TO-3 PUBLICATION 95, PA

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