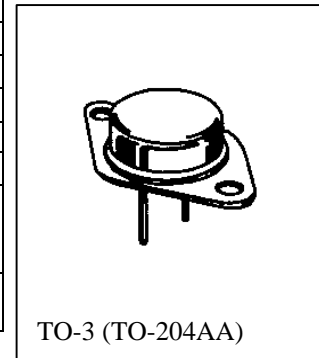


2N6383 JANTX, JTXV
2N6384 JANTX, JTXV
2N6385 JANTX, JTXV


Processed per MIL-PRF-19500/523

NPN POWER SILICON TRANSISTOR
MAXIMUM RATINGS

Ratings	Symbol	2N6383	2N6384	2N6385	Units
Collector-Emitter Voltage	V_{CEO}	40	60	80	Vdc
Collector-Base Voltage	V_{CBO}	40	60	80	Vdc
Emitter-Base Voltage	V_{EBO}	5.0			Vdc
Base Current	I_B	0.25			Adc
Collector Current	I_C	10			Adc
Total Power Dissipation @ $T_A = 25^{\circ}C$ ⁽¹⁾ @ $T_C = 25^{\circ}C$ ⁽²⁾	P_T	6.0			W
		100			W
Operating & Storage Junction Temperature Range	T_{op}, T_{stg}	-55 to +175			$^{\circ}C$


THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	1.75	$^{\circ}C/W$

 1) Derate linearly 34.2 mW/ $^{\circ}C$ for $T_A > 25^{\circ}C$

 2) Derate linearly 571 mW/ $^{\circ}C$ for $T_C > 25^{\circ}C$
ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}C$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit	
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage $I_C = 200$ mAdc	$V_{(BR)CEO}$	40	80	Vdc	
					2N6383
					2N6384
Collector-Emitter Breakdown Voltage $I_C = 200$ mAdc, $R_{BB} = 100 \Omega$	$V_{(BR)CER}$	40	80	Vdc	
					2N6383
					2N6384
Collector-Base Cutoff Current $V_{CB} = 40$ Vdc	I_{CBO}		1.0	mAdc	
					2N6383
					$V_{CB} = 60$ Vdc
$V_{CB} = 80$ Vdc	2N6385		1.0		

2N6383, 2N6384, 2N6385, JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
Emitter-Base Cutoff Current $V_{EB} = 5.0 \text{ Vdc}$	I_{EBO}		5.0	mAdc
Collector-Emitter Cutoff Current $V_{CE} = 40 \text{ Vdc}$ 2N6383 $V_{CE} = 60 \text{ Vdc}$ 2N6384 $V_{CE} = 80 \text{ Vdc}$ 2N6385	I_{CEO}		1.0 1.0 1.0	mAdc
Collector-Emitter Cutoff Current $V_{CE} = 40 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ 2N6383 $V_{CE} = 60 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ 2N6384 $V_{CE} = 80 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ 2N6385	I_{CEX}		0.3 0.3 0.3	mAdc

ON CHARACTERISTICS ⁽³⁾

Forward-Current Transfer Ratio $I_C = 5.0 \text{ Adc}, V_{CE} = 3.0 \text{ Vdc}$ $I_C = 10 \text{ Adc}, V_{CE} = 3.0 \text{ Vdc}$	h_{FE}	1,000 100	20,000	
Collector-Emitter Saturation Voltage $I_C = 5.0 \text{ Adc}, I_B = 10 \text{ mAdc}$ $I_C = 10 \text{ Adc}, I_B = 0.1 \text{ Adc}$	$V_{CE(sat)}$		2.0 3.0	Vdc
Base-Emitter Voltage $I_C = 5.0 \text{ Adc}, V_{CE} = 3.0 \text{ Vdc}$ $I_C = 10 \text{ Adc}, V_{CE} = 3.0 \text{ Vdc}$	$V_{BE(on)}$		2.8 4.5	Vdc

DYNAMIC CHARACTERISTICS

Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 1.0 \text{ Adc}, V_{CE} = 5.0 \text{ Vdc}, f = 1.0 \text{ MHz}$	$ h_{fe} $	20	300	
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{obo}		200	pF

SWITCHING CHARACTERISTICS

Turn-On Time $V_{CC} = 30 \text{ Vdc}; I_C = 5.0 \text{ Adc}; I_B = 20 \text{ mAdc}$	t_{on}		2.5	μs
Turn-Off Time $V_{CC} = 30 \text{ Vdc}; I_C = 5.0 \text{ Adc}; I_{B1} = -I_{B2} = 20 \text{ mAdc}$	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 $V_{CE} = 10 \text{ Vdc}, I_C = 10 \text{ Adc}$	All Types
Test 2 $V_{CE} = 30 \text{ Vdc}, I_C = 3.33 \text{ Adc}$	All Types
Test 3 $V_{CE} = 40 \text{ Vdc}, I_C = 1.5 \text{ Adc}$	2N6383
$V_{CE} = 60 \text{ Vdc}, I_C = 0.4 \text{ Adc}$	2N6384
$V_{CE} = 80 \text{ Vdc}, I_C = 0.16 \text{ Adc}$	2N6385

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