Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Microsemi LAWRENCE

TECHNICAL DATA

NPN POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/525

Devices		*Qualified Level*
2N6546	**2N6547**	**JAN JANTX JANTXV**

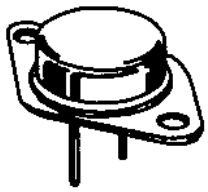
MAXIMUM RATINGS

Ratings	Symbol	2N6546	2N6547	Units
Collector-Emitter Voltage	V_{CEO}	300	400	Vdc
Collector-Base Voltage	V_{CEX}	600	850	Vdc
Emitter-Base Voltage	V_{EBO}	8		Vdc
Base Current	I_B	10		Adc
Collector Current	I_C	15		Adc
Total Power Dissipation @ $T_C = +25^0C$ (1) @ $T_C = +100^0C$ (1)	P_T	175 100		W W
Operating & Storage Temperature Range	T_{op}, T_{stg}	-65 to +200		^0C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.0	$^0C/W$

1) Between $T_C = +25^0C$ and $T_C = +200^0C$, linear derating factor (average) = 1.0 $W/^0C$



TO-3 (TO-204AA)*

*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage I_C = 100 mAdc	2N6546 2N6547	$V_{(BR)CEO}$	300 400		Vdc
Collector-Emitter Cutoff Current V_{CE} = 600 Vdc; V_{BE} = 1.5 Vdc V_{CE} = 850 Vdc; V_{BE} = 1.5 Vdc	 2N6546 2N6547	I_{CEX}		 1.0 1.0	mAdc
Emitter-Base Cutoff Current V_{EB} = 8 Vdc		I_{EBO}		1.0	mAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS (3)				
Forward-Current Transfer Ratio I_C = 1 Adc; V_{CE} = 2 Vdc I_C = 5 Adc; V_{CE} = 2 Vdc I_C = 10 Adc; V_{CE} = 2 Vdc	h_{FE}	 15 12 6	 60	
Base-Emitter Saturated Voltage I_B = 2.0 Adc; I_C = 10 Adc	$V_{BE(sat)}$		1.6	Vdc
Collector-Emitter Saturated Voltage I_B = 2.0 Adc; I_C = 10 Adc I_B = 3.0 Adc; I_C = 15 Adc	$V_{CE(sat)}$		1.5 5.0	Vdc
DYNAMIC CHARACTERISTICS				
Magnitude of Common-Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 0.5 Adc, V_{CE} = 10 Vdc, f = 1 MHz	$\lvert h_{fe} \rvert$	6.0	30	
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, 0.1 MHz ≤ f ≤ 1.0 MHz	C_{obo}		500	pF
SWITCHING CHARACTERISTICS				
Turn-On Time V_{CC} = 250 Vdc; I_C = 10 Adc; I_{B1} = I_{B2} = 2 Adc	t_{on}		1.0	µs
Turn-Off Time V_{CC} = 250 Vdc; I_C = 10 Adc; I_{B1} = I_{B2} = 2 Adc	t_{off}		4.7	µs

SAFE OPERATING AREA

DC Tests

T_C = +25°C; t_p = 1 s; 1 cycle (See Figure 3 of MIL-PRF-19500/525)

Test 1

V_{CE} = 11.7 Vdc; I_C = 15 Adc

Test 2

V_{CE} = 20 Vdc; I_C = 8.75 Adc

Test 3

V_{CE} = 250 Vdc; I_C = 45 mAdc 2N6546

V_{CE} = 350 Vdc; I_C = 30 mAdc 2N6547

Unclamped Inductive lOAD

T_C = +25°C; duty cycle ≤ 10%; R_S = 0.1 Ω; t_r = t_f ≤ 500 ηs (See Figure 4 of MIL-PRF-19500/525)

Test 1

Tp = 5 ms; (vary to obtain I_C); R_{BB1} = 15 Ω; $V_{BB}1$ = 38.5 Vdc; R_{BB2} = 50 Ω;
V_{BB2} = -4 Vdc; V_{CC} = 20 Vdc; IC = 15 Adc; L = 10 µH

Test 2

Tp = 5 ms; (vary to obtain I_C); R_{BB1} = 15 Ω; $V_{BB}1$ = 38.5 Vdc; R_{BB2} = 50 Ω;
V_{BB2} = -4 Vdc; V_{CC} = 20 Vdc; IC = 100 mAdc; L = 1 mH

Clamped Inductive Load

T_A = +25°C; duty cycle ≤ 5%; Tp = 1.5 ms; (vary to obtain I_C); V_{CC} = 20 Vdc; I_C = 8 Adc; L = 180 µH
(See Figure 5 of MIL-PRF-19500/525)

Clamped Voltage = 350 Vdc 2N6546

Clamped Voltage = 450 Vdc 2N6547

3.) Pulse Test: Pulse Width = 300µs, Duty Cycle ≤ 2.0%.