



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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PNP POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/441

Devices

2N3740

2N3741

Qualified Level

JAN
JANTX
JANTXV

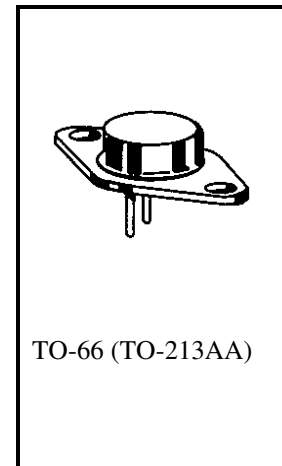
MAXIMUM RATINGS

Ratings	Symbol	2N3740	2N3741	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	Vdc
Collector-Base Voltage	V_{CBO}	60	80	Vdc
Emitter-Base Voltage	V_{EBO}	7.0		Vdc
Base Current	I_B	2.0		Adc
Collector Current	I_C	4.0		Adc
Total Power Dissipation	P_T	@ $T_C = +25^{\circ}C$ ⁽¹⁾	25	W
		@ $T_C = +100^{\circ}C$	14	W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		$^{\circ}C$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	7.0	$^{\circ}C/W$

1) Derate linearly @ 143 mW/ $^{\circ}C$ for $T_C > +25^{\circ}C$



*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}C$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage $I_C = 100$ mAdc	2N3740 2N3741	$V_{(BR)CEO}$	60 80	Vdc
Collector-Emitter Cutoff Current $V_{CE} = 40$ Vdc $V_{CE} = 60$ Vdc	2N3740 2N3741	I_{CEO}	10 10	μ Adc
Collector-Emitter Cutoff Current $V_{CE} = 60$ Vdc, $V_{BE} = 1.5$ Vdc $V_{CE} = 80$ Vdc, $V_{BE} = 1.5$ Vdc	2N3740 2N3741	I_{CEX}	300 300	η Adc
Collector-Base Cutoff Current $V_{CB} = 60$ Vdc $V_{CB} = 80$ Vdc	2N3740 2N3741	I_{CBO}	100 100	η Adc
Emitter-Base Cutoff Current $V_{EB} = 7.0$ Vdc		I_{EBO}	100	η Adc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽²⁾				
Forward-Current Transfer Ratio I _C = 100 mA _{dc} , V _{CE} = 1.0 V _{dc} I _C = 250 mA _{dc} , V _{CE} = 1.0 V _{dc} I _C = 500 mA _{dc} , V _{CE} = 1.0 V _{dc} I _C = 1.0 A _{dc} , V _{CE} = 1.0 V _{dc} I _C = 4.0 A _{dc} , V _{CE} = 5.0 V _{dc}	h _{FE}	40 30 20 10 3.0	120	
Collector-Emitter Saturation Voltage I _C = 250 mA _{dc} , I _B = 25 mA _{dc} I _C = 1.0 A _{dc} , I _B = 125 mA _{dc}	V _{CE(sat)}		0.4 0.6	V _{dc}
Base-Emitter Voltage I _C = 250 mA _{dc} , V _{CE} = 1.0 V _{dc}	V _{BE(on)}		1.0	V _{dc}

DYNAMIC CHARACTERISTICS

Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio I _C = 100 mA _{dc} , V _{CE} = 10 V _{dc} , f = 5.0 MHz	h _{fe}	1.0	12	
Small-Signal Short-Circuit Forward Current Transfer Ratio I _C = 50 mA _{dc} , V _{CE} = 10 V _{dc} , f = 1.0 kHz	h _{fe}	25	250	
Output Capacitance V _{CB} = 10 V _{dc} , I _E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{obo}		100	pF

SWITCHING CHARACTERISTICS

Turn-On Time V _{CC} = 30 V _{dc} ; I _C = 1.0 A _{dc} ; I _B = 0.1 A _{dc}	t _{on}		400	μs
Turn-Off Time V _{CC} = 30 V _{dc} ; I _C = 1.0 A _{dc} ; I _B = I _B = 0.1 A _{dc}	t _{off}		1.0	μs

SAFE OPERATING AREA

DC Tests T _C = +25°C, 1 Cycle, t = 1.0 s	
Test 1 V _{CE} = 6.25 V _{dc} , I _C = 4.0 A _{dc}	
Test 2 V _{CE} = 20 V _{dc} , I _C = 1.25 A _{dc}	
Test 3 V _{CE} = 50 V _{dc} , I _C = 150 mA _{dc} 2N3740 V _{CE} = 65 V _{dc} , I _C = 150 mA _{dc} 2N3741	

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