PNP Power Silicon Transistor

2N3740 & 2N3741

NEW

AEROFLEX
A passion for performance.

Features

- Available in JAN, JANTX, JANTXV and JANS per MIL-PRF-19500/441
- TO-66 (TO-213AA) Package

Maximum Ratings

Ratings	Symbol	2N3740	2N3741	Units
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 @ T_A = +25 °C @ T_C = +100 °C	P_T	3 14		W W
Operating & Storage Temperature Range	T_{op}, T_{stg}	-65 to +200		°C
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	7.0		°C/W

Electrical Characteristics (T_C = 25°C unless otherwise noted)

OFF Characteristics		Symbol	Mimimum	Maximum	Units
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	µAdc
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	nAdc
Collector - Base Cutoff Current V_{CB} = 60 Vdc V_{CB} = 80 Vdc	2N3740 2N3741	I_{CBO}	- - -	100 100	nAdc
Emitter - Base Cutoff Current V_{EB} = 7.0 Vdc		I_{EBO}	- - -	100	nAdc

AEROFLEX
METELICS

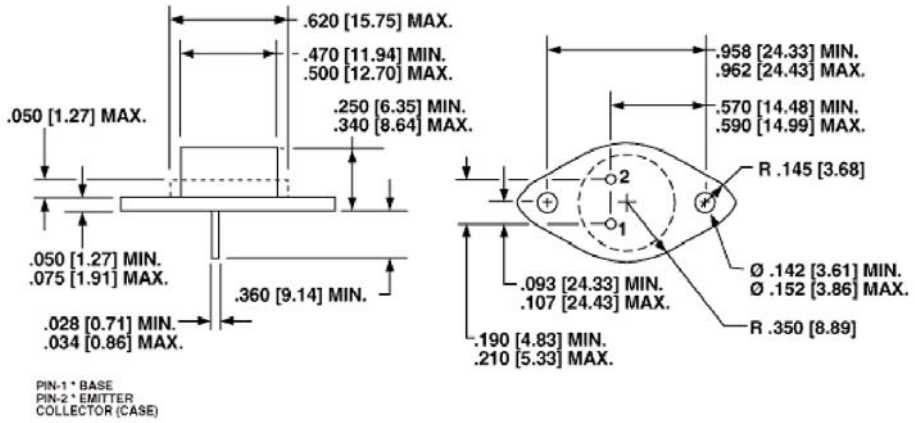
Electrical Characteristics -con't

ON Characteristics (1)	Symbol	Minimum	Maximum	Unit
Forward Current Transfer Ratio				
I_C = 100 mAdc, V_{CE} = 1.0 Vdc	H_{FE}	40	120	
I_C = 250 mAdc, V_{CE} = 1.0 Vdc		30		
I_C = 500 mAdc, V_{CE} = 1.0 Vdc		20		
I_C = 1.0 Adc, V_{CE} = 1.0 Vdc		10		
I_C = 4.0 Adc, V_{CE} = 5.0 Vdc		3		
Collector - Emitter Saturation Voltage				
I_C = 250 mAdc, I_B = 25 mAdc	$V_{CE(sat)}$	- - -	0.4	Vdc
I_C = 1.0 Adc, I_B = 1.25 mA		- - -	0.6	
Base - Emitter Voltage				
I_C = 250 mAdc, V_{CE} = 1 Vdc	$V_{BE(on)}$	- - -	1.0	Vdc
DYNAMIC Characteristics				
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio				
I_C = 100 mAdc, V_{CE} = 10.0 Vdc, f = 5.0 MHz	$\lvert h_{fe} \rvert$	1	12	
Small-Signal Short-Circuit Forward Current Transfer Ratio				
I_C = 50 mAdc, V_{CE} = 10.0 Vdc, f = 1.0 kHz	h_{fe}	25	250	
Output Capacitance				
V_{CB} = 10 Vdc, I_E = 0, 100 kHz $\leq$ f $\leq$ 1.0 MHz	C_{obo}	- - -	100	pF
SWITCHING Characteristics				
Tum-On Time				
V_{CC} = 30 Vdc, I_C = 1.0 Adc, I_B = 0.1Adc	t_{on}	- - -	400	µs
Tum-off Time				
V_{CC} = 30 Vdc, I_C = 1.0 Adc, I_{B1} = -I_{B2} = 0.1Adc	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 Vdc, I_C = 4.0 Adc	
Test 2:	V_{CE} = 20 Vdc, I_C = 1.25 Adc	
Test 3:	V_{CE} = 50 Vdc, I_C = 150 mAdc	2N3740
	V_{CE} = 65 Vdc, I_C = 150 mAdc	2N3741

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

Outline Drawing



NOTE: Dimensions in Inches [mm]

Aeroflex / Metelics, Inc.

ISO 9001: 2008 certified companies

975 Stewart Drive,
Sunnyvale, CA 94085
Tel: (408) 737-8181
Fax: (408) 733-7645

54 Grenier Field Road,
Londonderry, NH 03053
Tel: (603) 641-3800
Fax: (603)-641-3500

Sales: 888-641-SEMI (7364)

Hi-Rel Components
9 Hampshire Street,
Lawrence, MA 01840
Tel: (603) 641-3800
Fax: (978) 683-3264

www.aeroflex.com/metelics-hirelcomponents

www.aeroflex.com/metelics ***metelics-sales@aeroflex.com***

A passion for performance.

Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.

Revision Date: 12/14/2011