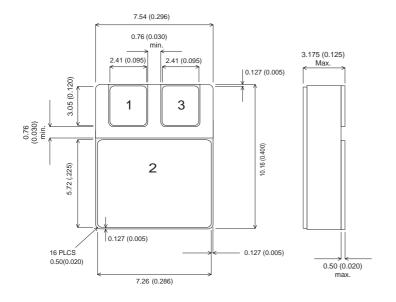




MECHANICAL DATA

Dimensions in mm (inches)



NPN BIPOLAR TRANSISTOR IN A CERAMIC SURFACE MOUNT **PACKAGE FOR HIGH REL APPLICATIONS**

FEATURES

- HIGH VOLTAGE
- FAST SWITCHING
- CERAMIC SURFACE MOUNT PACKAGE
- SCREENING OPTIONS AVAILABLE

SMD05 (TO-276AA)

Underside View

PIN 1 - Base PIN 2 – Collector PIN 3 - Emitter

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector– Base Voltage (I _E = 0)	100V
V_{CEO}	Collector– Emitter Voltage (I _B = 0)	80V
V_{EBO}	Emiiter– Base Voltage (I _B = 0)	6V
I_{B}	Base Current	2A
I _C	Collector Current	4A
T_J, T_STG	Operating and Storage Junction Temperature Range	−55 to +150°C
P_{D}	Total Device Dissipation @ T _C = 25°C	25W
	Derate above 25°C	5°C/W

Semelab PIc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

E-mail: sales@semelab.co.uk

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.

Document Number 3781 Issue 3



2N3767SMD05

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

	Parameter	Test Conditions		Min.	Тур.	Max.	Unit			
	OFF CHARACTERISTICS									
V _{(BR)CEO}	Collector Emitter Breakdown Voltage ¹	$I_C = 100 \text{mA}$	$I_B = 0$	80			V			
		V _{CE} = 100V	$V_{BE} = 1.5V$			100	μΑ			
I _{CEX}	Collector Cutoff Current	V _{CE} = 70V	$V_{BE} = 1.5V$			1.0	mA			
			T _A = 150°C							
I _{EBO}	Emitter Base Cutoff Current	$V_{EB} = 6V$	I _C = 0			0.75				
I _{CEO}	Collector Emitter Cutoff Current	$V_{CE} = 80V$	I _B = 0			0.7				
I _{CBO}	Collector Base Cutoff Current	V _{CB} = 100V	I _E = 0			0.1				
	ON CHARACTERISTICS	•								
h _{FE}	DC Current Gain	$I_C = 50 \text{mA}$	V _{CE} = 5V	30			_			
		$I_C = 500 \text{mA}$	V _{CE} = 5V	40		160				
		I _C = 1.0A	V _{CE} = 10V	20			1			
V _{CE(sat)}	Collector Emitter Saturation Voltage	I _C = 1.0A	I _B = 0.1A			2.5	V			
V _{BE}	Base Emitter Voltage	I _C = 1.0A	V _{CE} = 10V			1.5				
	TRANSIENT CHARACTERISTICS									
f _T	Transistion Frequency	V _{CE} = 10V	$I_C = 500 \text{mA}$			10	MHz			
			f = 10MHz							
C _{OB}	Common Base Output Capacitance	$V_{CB} = 10V$	$I_C = 0A$			50	pF			
			f = 100KHz			50				
h _{fe}	Small Signal Current Gain	V _{CE} = 10V	I _C = 100mA	40						
			f = 1.0kHz	40						

- 1) Pulse test : Pulse Width < $100\mu s$,Duty Cycle < 1%
- 2) f_t is defined as the frequency at which $|h_{fe}|$ extrapolates to untity.

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