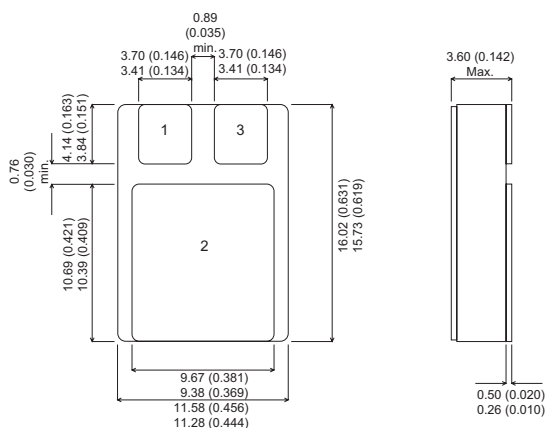


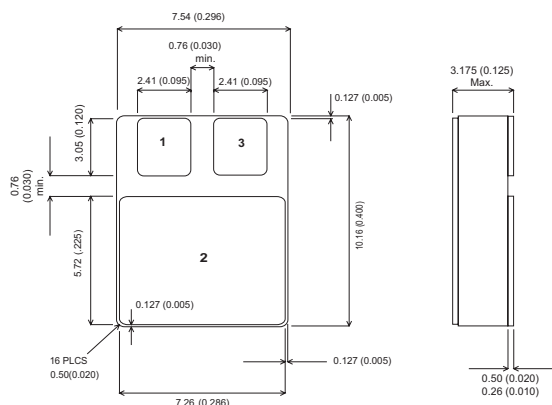
MECHANICAL DATA

Dimensions in mm (inches)



SMD1 (TO-276AB)

Pad 1 – Base Pad 2 – Collector Pad 3 – Emitter



SMD05 (TO-276AA)

Pad 1 – Base Pad 2 – Collector Pad 3 – Emitter

COMPLEMENTARY SILICON POWER TRANSISTORS

2N6299SMD - PNP TRANSISTOR

2N6301SMD - NPN TRANSISTOR

Designed for general purpose amplifier and low frequency switching applications.

FEATURES

- High DC Current Gain
- Monolithic Construction with Built-in Base-Emitter Shunt Resistors

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{CEO}	Collector – Emitter Voltage	80V
V_{CBO}	Collector – Base Voltage	80V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Continuous Collector Current	8A
	Peak	16A
I_B	Base Current	120mA
P_D	Total Dissipation @ $T_C = 25^{\circ}C$	75W
	Derate above $25^{\circ}C$	0.428W/ $^{\circ}C$
T_{STG}, T_J	Operating and Storage Junction Temperature Range	-65 to +200 $^{\circ}C$

Semelab Plc 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.

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
OFF CHARACTERISTICS						
$V_{CEO(sus)}$	Collector – Emitter Sustaining Voltage *	$I_C = 100mA$	$I_B = 0$	80	V	
I_{CEO}	Collector Cut-off Current	$V_{CE} = 40V$	$I_B = 0$		0.5 mA	
I_{CEX}	Collector Cut-off Current	$V_{CE} = \text{Rated } V_{CB}$	$V_{BE(off)} = 1.5V$		0.5 mA	
			$T_C = 150^{\circ}C$		5.0 mA	
I_{EBO}	Emitter Cut-off Current	$V_{BE} = 5V$	$I_C = 0$		2 mA	
ON CHARACTERISTICS						
h_{FE}	DC Current Gain*	$V_{CE} = 3V$	$I_C = 4A$	750	18000	—
		$V_{CE} = 3V$	$I_C = 8A$	100		
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage*	$I_C = 4A$	$I_B = 16mA$		2.0	V
		$I_C = 8A$	$I_B = 80mA$		3.0	
$V_{BE(sat)}$	Base – Emitter Saturation Voltage*	$I_C = 8A$	$I_B = 80mA$		4.0	V
$V_{BE(on)}$	Base – Emitter On Voltage*	$V_{CE} = 3V$	$I_C = 4A$		2.8	V
DYNAMIC CHARACTERISTICS						
C_{ob}	Output Capacitance	$V_{CB} = 10V$	$I_E = 0$		200	pF
		$f = 0.1MHz$				
$ h_{fe} $	Magnitude of Common Emitter Small Signal Short Circuit Current Transfer Ratio	$V_{CE} = 3V$	$I_C = 3A$	25	350	—
		$f = 1MHz$				
h_{fe}	Small Signal Current Gain*	$V_{CE} = 3V$	$I_C = 3A$	300		—
		$f = 1kHz$				

Notes

* Pulse test: $t_p = 300\mu s$, Duty Cycle = 2%