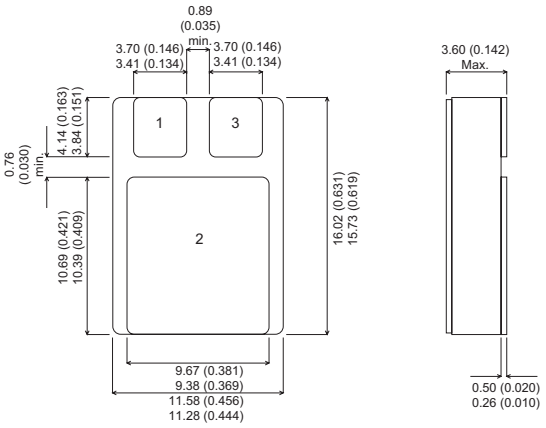
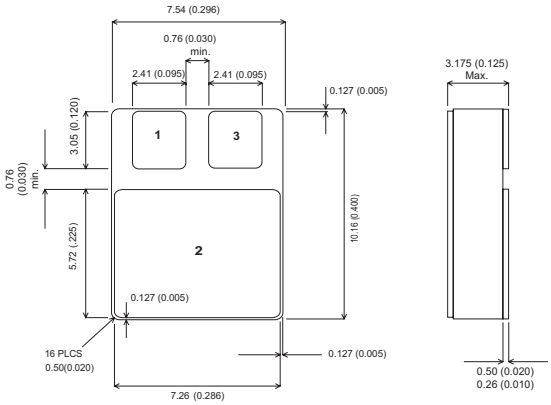
2N6299SMD 2N6299SMD05
2N6301SMD 2N6301SMD05

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°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°C	75W
	Derate above 25°C	0.428W/°C
T_{STG} , T_J	Operating and Storage Junction Temperature Range	–65 to +200°C

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°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} = Rated V_{CB}	$V_{BE(off)}$ = 1.5V			0.5	mA
			T_C = 150°C			5.0	
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 f = 0.1MHz	I_E = 0			200	pF
$\lvert h_{fe} \rvert$	Magnitude of Common Emitter Small Signal Short Circuit Current Transfer Ratio	V_{CE} = 3V I_C = 3A f = 1MHz		25		350	—
h_{fe}	Small Signal Current Gain*	V_{CE} = 3V f = 1kHz	I_C = 3A	300			—

Notes

* Pulse test: t_p = 300µs , Duty Cycle = 2%

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