

NPN SILICON POWER TRANSISTOR 2SC3567

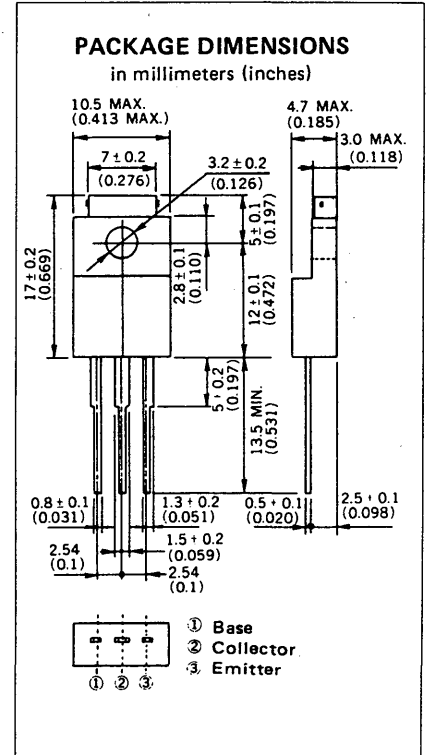
DESCRIPTION The 2SC3567 is NPN silicon epitaxial transistor designed for switching regulator, DC-DC converter and high frequency power amplifier application.

- FEATURES**
- Easy mount by eliminating Insulation Sheet and Bushing.
 - Low Collector Saturation Voltage.
 - High Switching Speed.
 - Complementary to 2SA1395.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Junction Temperature	150 °C Maximum
Maximum Power Dissipation (T _a = 25 °C)	
Total Power Dissipation	15 W
Maximum Voltages and Currents (T _a = 25 °C)	
V _{CBO} Collector to Base Voltage	150 V
V _{CEO} Collector to Emitter Voltage	100 V
V _{EBO} Emitter to Base Voltage	7.0 V
I _{C(DC)} Collector Current (DC)	3.0 A
I _{C(pulse)} Collector Current (pulse)*	6.0 A
I _{B(DC)} Base Current (DC)	1.5 A

* PW ≤ 300 μs, Duty Cycle ≤ 10 %



ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT.	TEST CONDITIONS
t _{on}	Turn-on Time			0.5	μs	I _C = 1.5 A, I _{B1} = -I _{B2} = 0.15 A R _L = 33 Ω, V _{CC} ≅ 50 V
t _{stg}	Storage Time			1.5	μs	
t _f	Fall Time			0.5	μs	
h _{FE1}	DC Current Gain**	40			-	V _{CE} = 5.0 V, I _C = 0.2 A
h _{FE2}	DC Current Gain**	40		200	-	V _{CE} = 5.0 V, I _C = 1.0 A
V _{CE(sat)}	Collector Saturation Voltage**			0.6	V	I _C = 1.5 A, I _B = 0.15 A
V _{BE(sat)}	Base Saturation Voltage**			1.5	V	I _C = 1.5 A, I _B = 0.15 A
V _{CEO (SUS)}	Collector to Emitter Sustaining Voltage	100			V	I _C = 1.0 A, I _B = 0.1 A, L = 1 mH
V _{CEX (SUS)1}	Collector to Emitter Sustaining Voltage	100			V	I _C = 1.0 A, I _{B1} = -I _{B2} = 0.1 A, L = 180 μH, Clamped
V _{CEX (SUS)2}	Collector to Emitter Sustaining Voltage	100			V	I _C = 2.0 A, I _{B1} = -I _{B2} = 0.2 A, L = 180 μH, Clamped
I _{CBO}	Collector Cutoff Current			10	μA	V _{CB} = 100 V, I _E = 0
I _{CER}	Collector Cutoff Current			1.0	mA	V _{CE} = 100 V, R _{BE} = 51 Ω, T _a = 125 °C
I _{CEx1}	Collector Cutoff Current			10	μA	V _{CE} = 100 V, V _{BE(OFF)} = -1.5 V
I _{CEx2}	Collector Cutoff Current			1.0	mA	V _{CE} = 100 V, V _{BE(OFF)} = -1.5 V, T _a = 125 °C
I _{EBO}	Emitter Cutoff Current			10	μA	V _{EB} = 5.0 V, I _C = 0

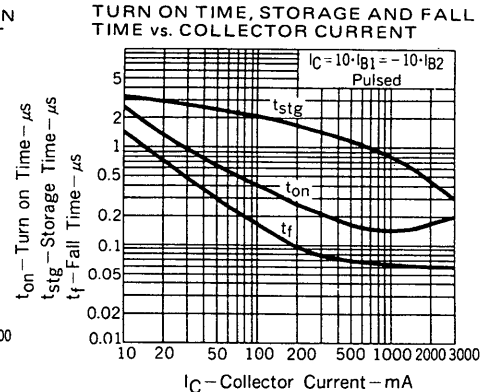
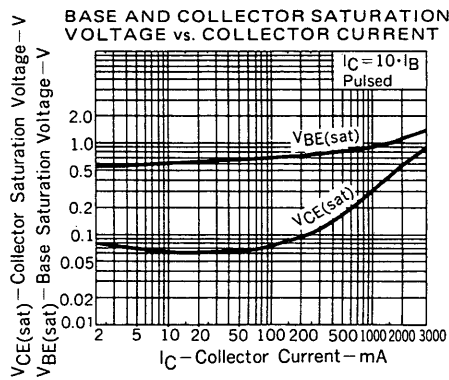
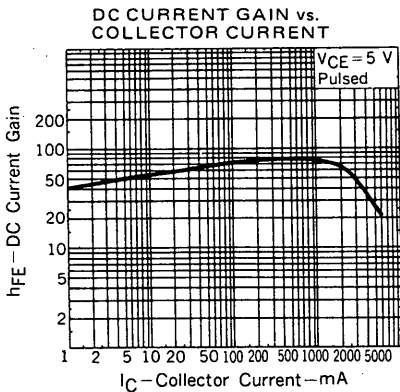
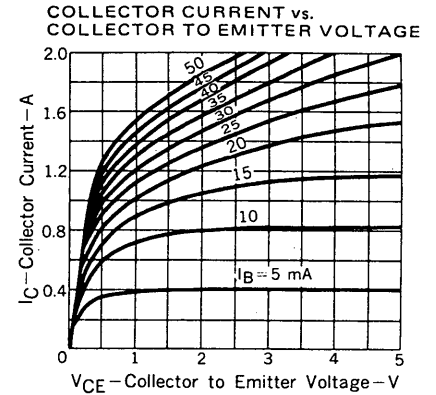
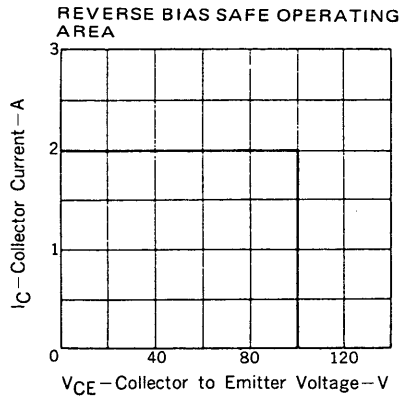
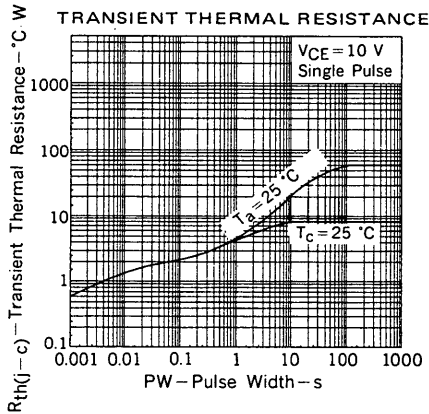
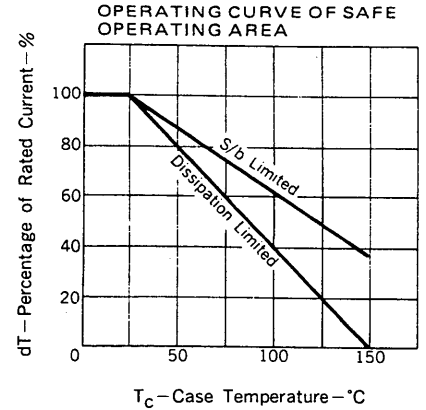
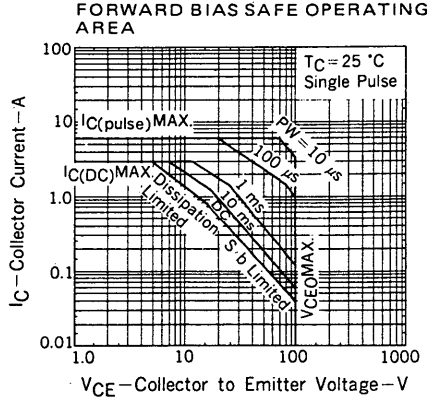
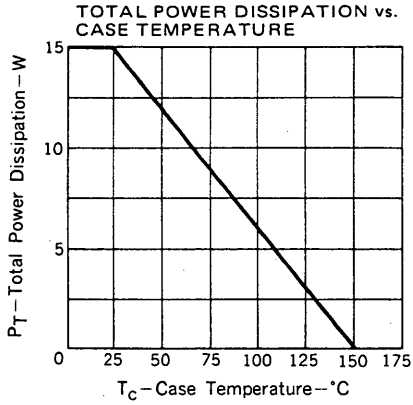
** PW ≤ 350 μs, Duty Cycle ≤ 2 %

Classification of h_{FE2}

Rank	M	L	K
Range	40 to 80	60 to 120	100 to 200

Test Conditions: V_{CE} = 5.0 V, I_C = 1.0 A

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



SWITCHING TIME (t_{on} , t_{stg} , t_f) TEST CIRCUIT

