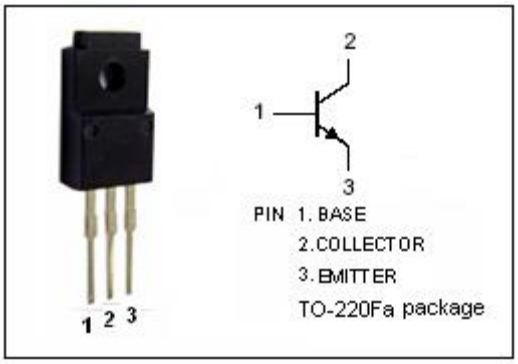
isc Silicon NPN Power Transistor — 2SC3568



DESCRIPTION

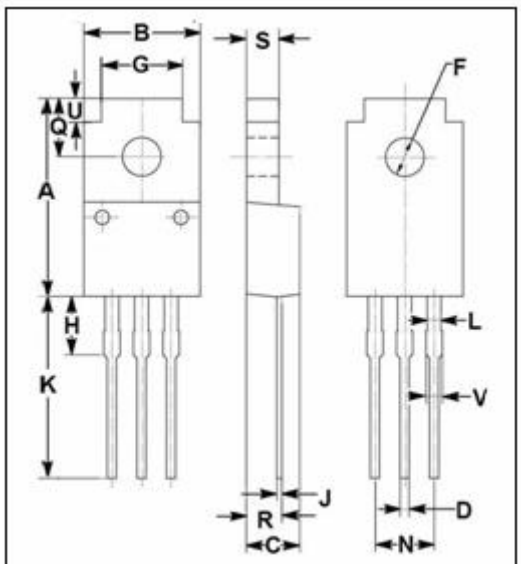
- Low Collector Saturation Voltage
- Fast Switching Speed
- Complement to Type 2SA1396
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for switching regulator, DC-DC converter and high frequency power amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	5	A
P_C	Total Power Dissipation @ T_C=25℃	30	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

isc Silicon NPN Power Transistor 2SC3568

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{CEO}	Collector-Emitter Sustaining Voltage	I_C= 30mA ; I_B= 0	100		V
$V_{CEX(SUS)-1}$	Collector-Emitter Sustaining Voltage	I_C= 5.0A ; I_{B1}=-I_{B2}= 0.5A, L=180 μ H,clamped	100		V
$V_{CEX(SUS)-2}$	Collector-Emitter Sustaining Voltage	I_C= 10A ; I_{B1}= 1.0A; I_{B2}= -0.5A, L= 180 μ H,clamped	100		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3.0A; I_B= 0.3A		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3.0A; I_B= 0.3A		1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V; I_E= 0		10	μ A
I_{CER}	Collector Cutoff Current	V_{CE}= 100V; R_{BE}= 51Ω , T_a=125℃		1.0	mA
I_{CEX}	Collector Cutoff Current	V_{CE}= 100V; $V_{BE(off)}$= -1.5V V_{CE}= 100V; $V_{BE(off)}$= -1.5V, T_a=125℃		10 1.0	μ A mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C=0		10	μ A
h_{FE-1}	DC Current Gain	I_C= 0.5A; V_{CE}= 5V	40		
h_{FE-2}	DC Current Gain	I_C= 3.0A; V_{CE}= 5V	40	200	
h_{FE-3}	DC Current Gain	I_C= 5.0A; V_{CE}= 5V	20		
Switching times					
t_{on}	Turn-on Time	I_C= 5.0A ,R_L= 10Ω , I_{B1}= -I_{B2}= 0.5A,V_{CC}≈ 50V		0.5	μ s
t_{stg}	Storage Time			1.5	μ s
t_f	Fall Time			0.5	μ s

◆ **h_{FE-2} Classifications**

M	L	K
40-80	60-120	100-200