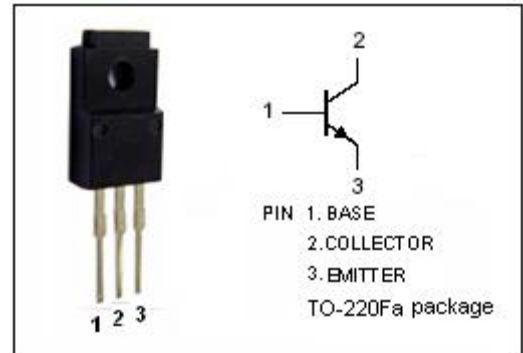


isc Silicon NPN Power Transistor
2SC3568
DESCRIPTION

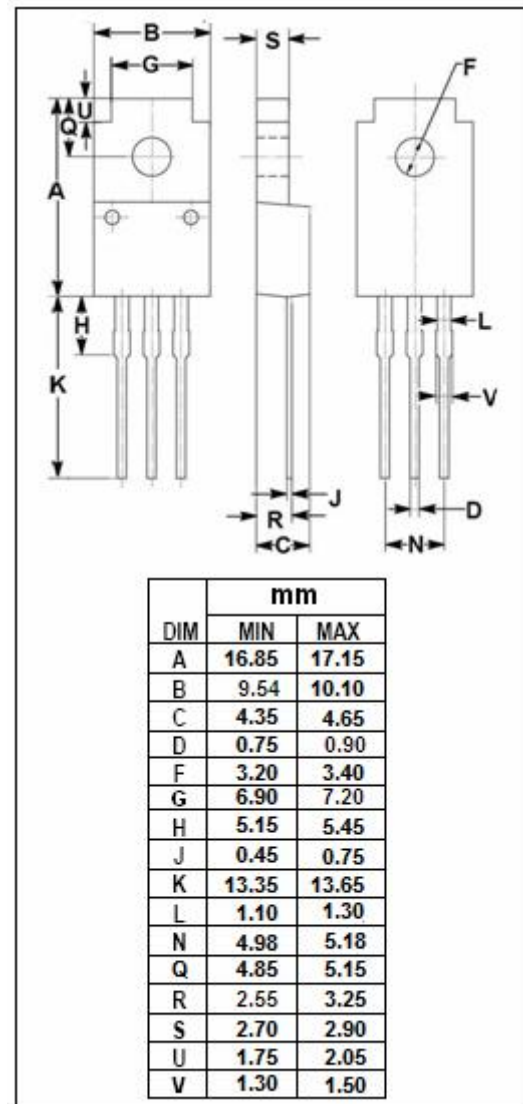
- Low Collector Saturation Voltage
- Fast Switching Speed
- Complement to Type 2SA1396
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

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


ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

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°C	30	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55~150	°C



isc Silicon NPN Power Transistor
2SC3568
ELECTRICAL CHARACTERISTICS
 $T_c=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{CE0}	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	100		V
$V_{CEX(SUS)-1}$	Collector-Emitter Sustaining Voltage	$I_C=5.0\text{A}; I_{B1}=-I_{B2}=0.5\text{A}, L=180\mu\text{H, clamped}$	100		V
$V_{CEX(SUS)-2}$	Collector-Emitter Sustaining Voltage	$I_C=10\text{A}; I_{B1}=1.0\text{A}; I_{B2}=-0.5\text{A}, L=180\mu\text{H, clamped}$	100		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3.0\text{A}; I_B=0.3\text{A}$		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3.0\text{A}; I_B=0.3\text{A}$		1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$		10	μA
I_{CER}	Collector Cutoff Current	$V_{CE}=100\text{V}; R_{BE}=51\Omega, T_a=125^\circ\text{C}$		1.0	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V}$ $V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V}, T_a=125^\circ\text{C}$		10 1.0	μA mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		10	μA
h_{FE-1}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=5\text{V}$	40		
h_{FE-2}	DC Current Gain	$I_C=3.0\text{A}; V_{CE}=5\text{V}$	40	200	
h_{FE-3}	DC Current Gain	$I_C=5.0\text{A}; V_{CE}=5\text{V}$	20		

Switching times

t_{on}	Turn-on Time	$I_C=5.0\text{A}, R_L=10\Omega,$ $I_{B1}=-I_{B2}=0.5\text{A}, V_{CC}\approx 50\text{V}$		0.5	μs
t_{stg}	Storage Time			1.5	μs
t_f	Fall Time			0.5	μs

◆ h_{FE-2} Classifications

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

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