

isc Silicon NPN Power Transistor

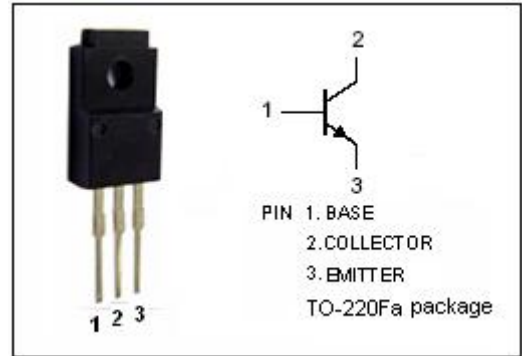
2SC3709A

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.4V(\text{Max}) @ I_C = 6A$
- Good Linearity of h_{FE}
- Complement to Type 2SA1451A

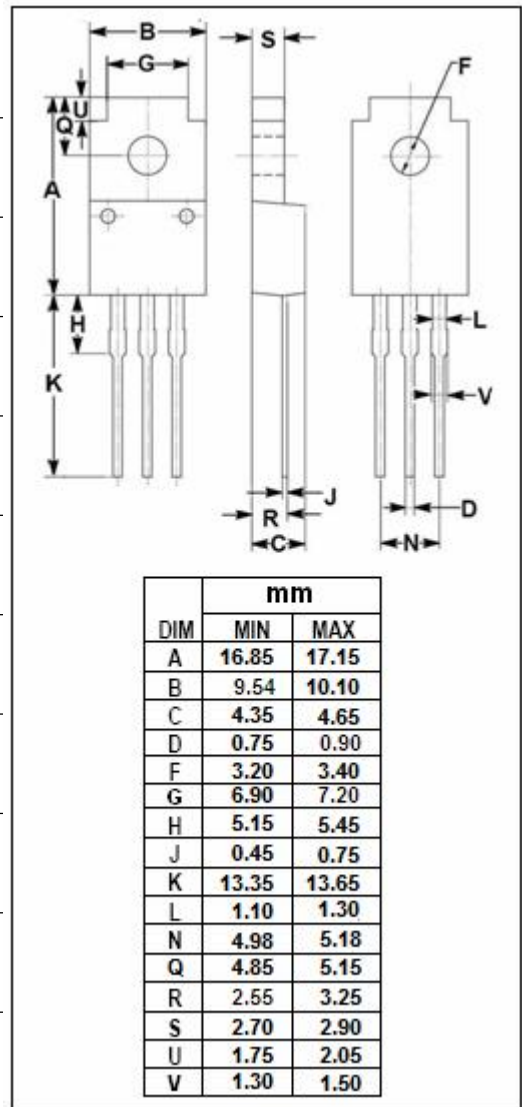
APPLICATIONS

- Designed for high current switching applications



ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	12	A
I_{CP}^*	Pulse Collector Current	30	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	30	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



* Tested in QT-2 transistor graphic instrument and test condition is $I_B = 2A, V_{CE} = 5V$.

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ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _c = 50mA ; I _B = 0	50			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _c = 6A; I _B = 0.3A			0.4	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _c = 6A; I _B = 0.3A			1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 60V; I _E = 0			10	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C = 0			10	μ A
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 1V	70		240	
h _{FE-2}	DC Current Gain	I _C = 6A; V _{CE} = 1V	40			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1MHz		180		pF
f _T	Current-Gain—Bandwidth Product	I _C = 1A; V _{CE} = 5V		90		MHz

Switching Times

t _{on}	Turn-on Time			0.2		μ s
t _{stg}	Storage Time	I _{B1} = -I _{B2} = 0.3A, R _L = 5 Ω ; V _{CC} ≈ 30V,		1.0		μ s
t _f	Fall Time			0.2		μ s

◆ h_{FE-1} Classifications

O	Y
70-140	120-240

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