

isc Silicon NPN Power Transistor

2SC5128

DESCRIPTION

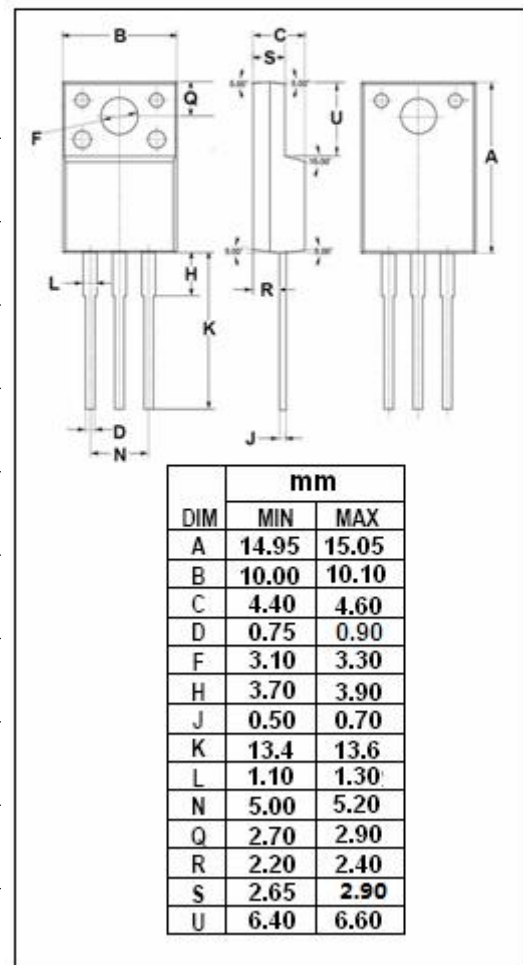
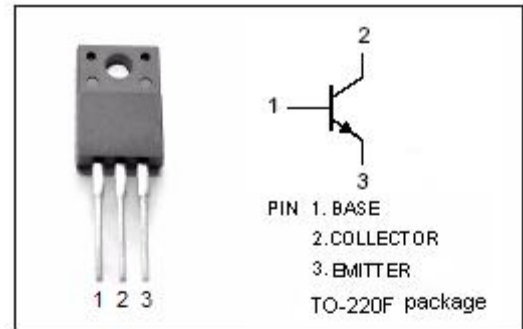
- Collector–Emitter Breakdown Voltage
: $V_{(BR)CEO} = 500V(\text{Min})$
- High Speed Switching
- Full-pack package with outstanding insulation, which can be installed to the heat sink with one screw
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	800	V
V_{CEO}	Collector-Emitter Voltage	500	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-peak	10	A
I_B	Base Current	3	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	40	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SC5128****ELECTRICAL CHARACTERISTICS****T_C =25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 25mA; I_B = 0$	500			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2A; I_B = 0.4A$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 2A; I_B = 0.4A$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 600V; I_E = 0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5V; I_C = 0$			0.1	mA
h_{FE-1}	DC Current Gain	$I_C = 2A; V_{CE} = 5V$	8			
h_{FE-2}	DC Current Gain	$I_C = 0.1A; V_{CE} = 5V$	15			
f_T	Current-Gain—Bandwidth Product	$I_E = -0.5A; V_{CE} = 10V$		20		MHz

Switching Times

t_{on}	Turn-On Time	$I_C = 2A; V_{CC} = 200V; R_L = 100\Omega$ $I_{B1} = 0.4A; I_{B2} = -0.8A;$			1.0	μs
t_s	Storage Time				3	μs
t_f	Fall Time				0.3	μs

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