

isc Silicon NPN Power Transistor

SFT1202

DESCRIPTION

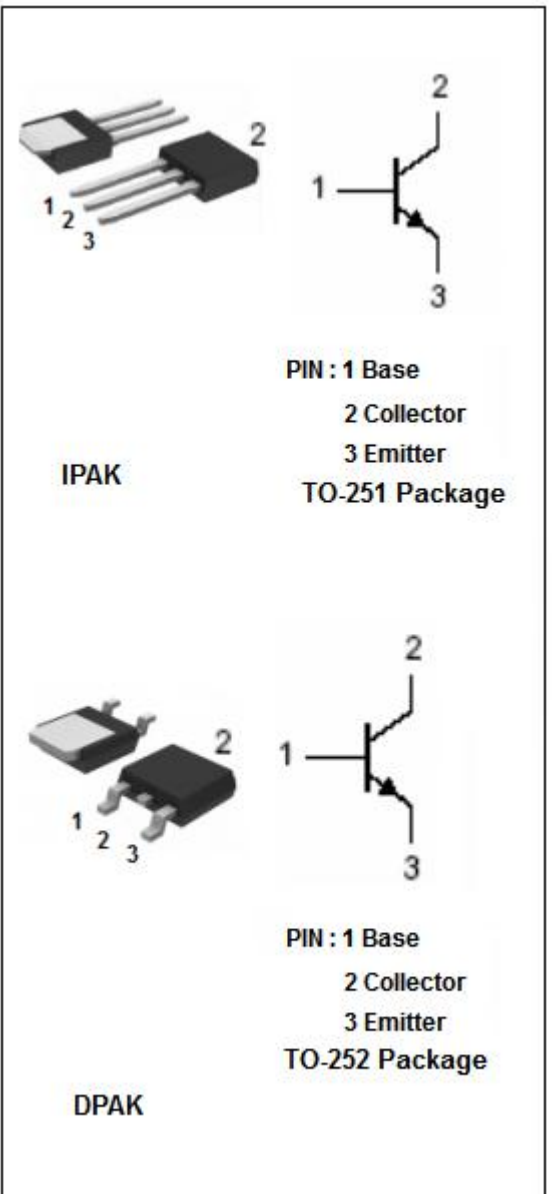
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 0.165V(\text{Max})(I_C = 1A; I_B = 0.1A)$
- Fast -Switching speed
- High allowable power dissipation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- DC/DC converter
- Relay drivers
- Lamp drivers
- Motor drivers, inverter

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	150	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	2	A
I_{CM}	Collector Current-Peak	3	A
I_B	Base Current	0.4	A
P_C	Collector Power Dissipation $T_a = 25^\circ\text{C}$	1	W
	Total Power Dissipation @ $T_C = 25^\circ\text{C}$	15	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}, I_C=0$	7			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}, I_B=0$	150			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=10\mu\text{A}, I_E=0$	180			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=100\text{mA}$			0.165	V
		$I_C=0.5\text{A}; I_B=50\text{mA}$			0.1	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=-1\text{A}; I_B=100\text{mA}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=80\text{V}; I_E=0$			1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=4\text{V}; I_C=0$			1	μA
h_{FE}	DC Current Gain	$I_C=100\text{mA}; V_{CE}=5\text{V}$	200		560	
f_T	Current-Gain—Bandwidth Product	$I_C=300\text{mA}; V_{CE}=10\text{V}$		140		MHZ
C_{OB}	Output Capacitance	$V_{CB}=10\text{V}; f=1.0\text{MHz}$		12		pF

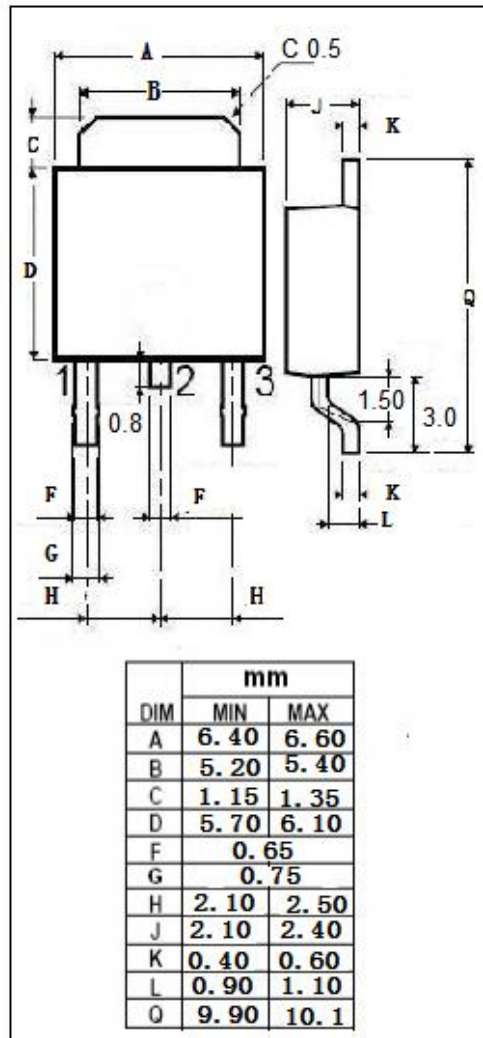
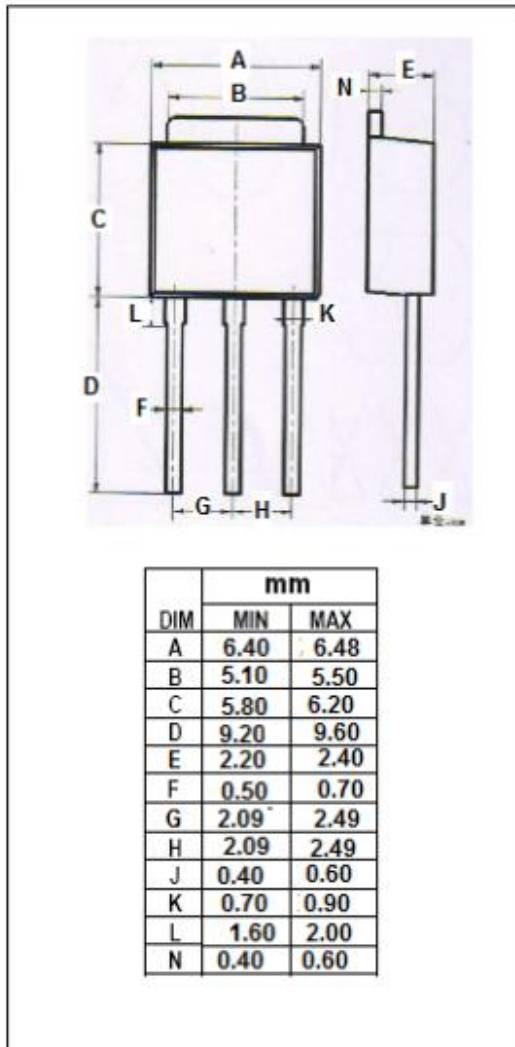
Switching Times; Resistive Load

t_{on}	Tur-on Time	$I_C=10\text{A}; V_{CC}=75\text{V}; I_B=-0.5\text{A}$		50		ns
t_s	Storage Time			1.46		μs
t_f	Fall Time			70		ns

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Outline Drawing



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