

isc Silicon NPN Darlington Power Transistor

2SD2642

DESCRIPTION

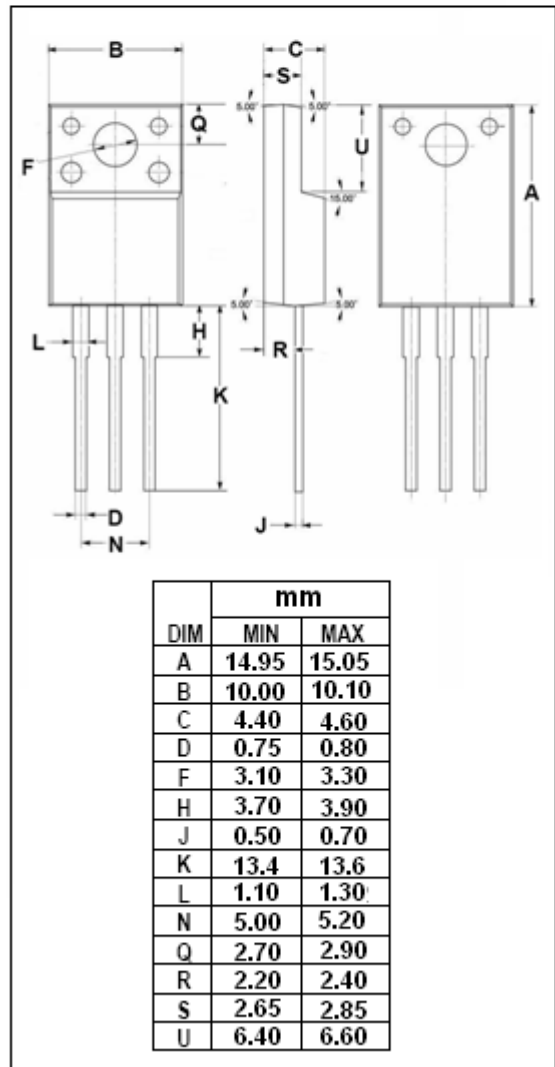
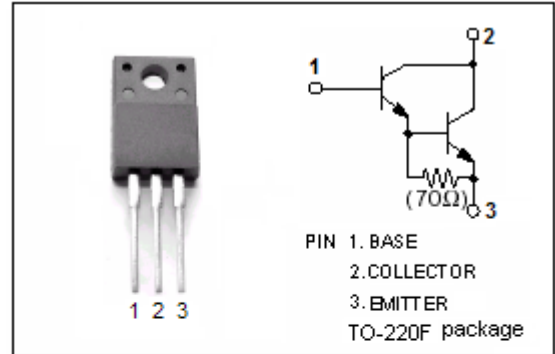
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 110V(\text{Min})$
- High DC Current Gain-
: $h_{FE} = 5000(\text{Min.}) @ (I_C = 5A, V_{CE} = 4V)$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 2.5V(\text{Max}) @ (I_C = 5A, I_B = 5mA)$
- Complement to Type 2SB1687

APPLICATIONS

- Designed for audio, series regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	110	V
V_{CEO}	Collector-Emitter Voltage	110	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	6	A
I_B	Base Current-Continuous	1	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	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD2642****ELECTRICAL CHARACTERISTICS****T_j=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 30mA ; I _B = 0	110			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 5mA			2.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 5mA			3.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 110V; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			100	μ A
h _{FE}	DC Current Gain	I _C = 5A; V _{CE} = 4V	5000			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1MHz		55		pF
f _T	Current-Gain—Bandwidth Product	I _E = -0.5A ; V _{CE} = 12V		60		MHz

Switching Times

t _{on}	Turn-on Time	V _{CC} = 30V, R _L = 6Ω, I _C = 5A; I _{B1} = -I _{B2} = 5mA,		0.8		μ s
t _{stg}	Storage Time			6.2		μ s
t _f	Fall Time			1.1		μ s

◆ **h_{FE} Classifications**

O	P	Y
5000-12000	6500-20000	15000-30000