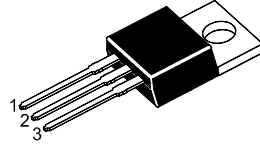


2SD1413

NPN Epitaxial Silicon Power Transistor

High power switching applications and hammer driver, pulse motor driver applications.



1.Base 2.Collector 3.Emitter
TO-220 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	150	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	7	V
Collector Current	I_C	5	A
Base Current	I_B	0.5	A
Power Dissipation ($T_c = 25\text{ }^\circ\text{C}$)	P_C	25	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

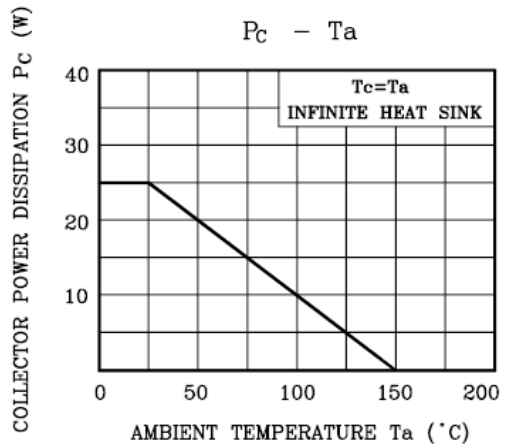
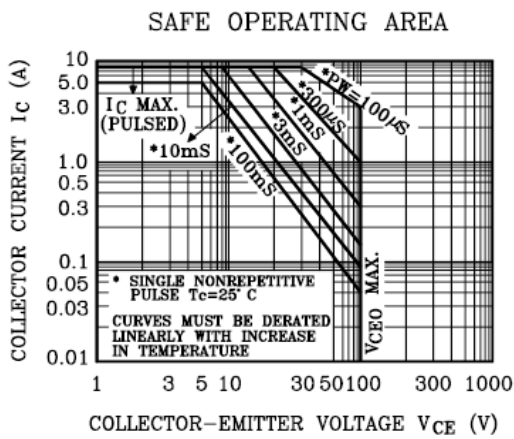
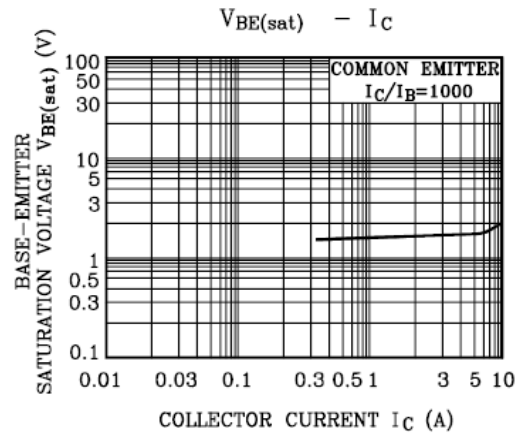
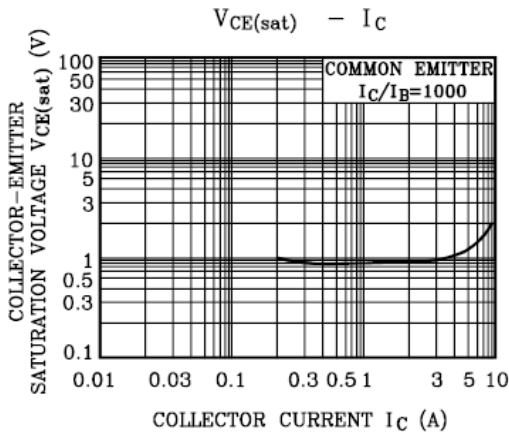
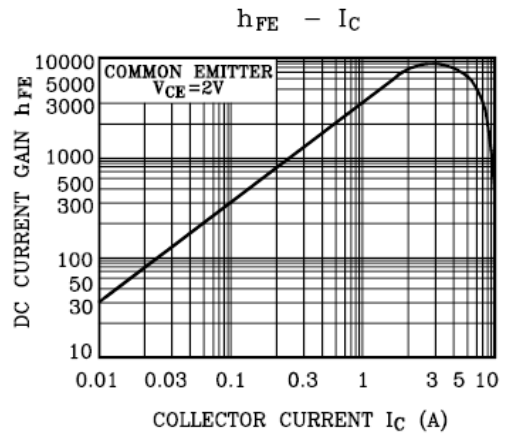
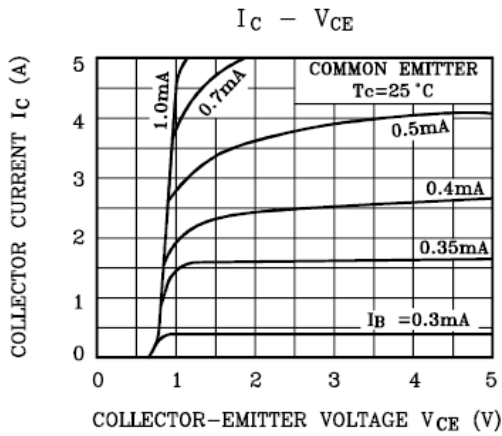
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 3\text{ A}$ at $V_{CE} = 2\text{ V}$, $I_C = 5\text{ A}$	h_{FE}	2000	-	15000	-
	h_{FE}	500	-	-	-
Collector Base Cutoff Current at $V_{CB} = 100\text{ V}$	I_{CBO}	-	-	1	mA
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	100	-	-	V
Collector Emitter Saturation Voltage at $I_C = 3\text{ A}$, $I_B = 3\text{ mA}$	$V_{CE(sat)}$	-	-	1.5	V
Base Emitter Saturation Voltage at $I_C = 3\text{ A}$, $I_B = 3\text{ mA}$	$V_{BE(sat)}$	-	-	2	V
Switching Turn-on Time at $V_{CC} = 50\text{ V}$, $I_{B1} = -I_{B2} = 3\text{ mA}$, $R_L = 16.7\ \Omega$	t_{on}	-	1	-	μs
Switching Storage Time at $V_{CC} = 50\text{ V}$, $I_{B1} = -I_{B2} = 3\text{ mA}$, $R_L = 16.7\ \Omega$	t_{stg}	-	3.5	-	μs
Switching Fall Time at $V_{CC} = 50\text{ V}$, $I_{B1} = -I_{B2} = 3\text{ mA}$, $R_L = 16.7\ \Omega$	t_f	-	1.2	-	μs

TOP DYNAMIC



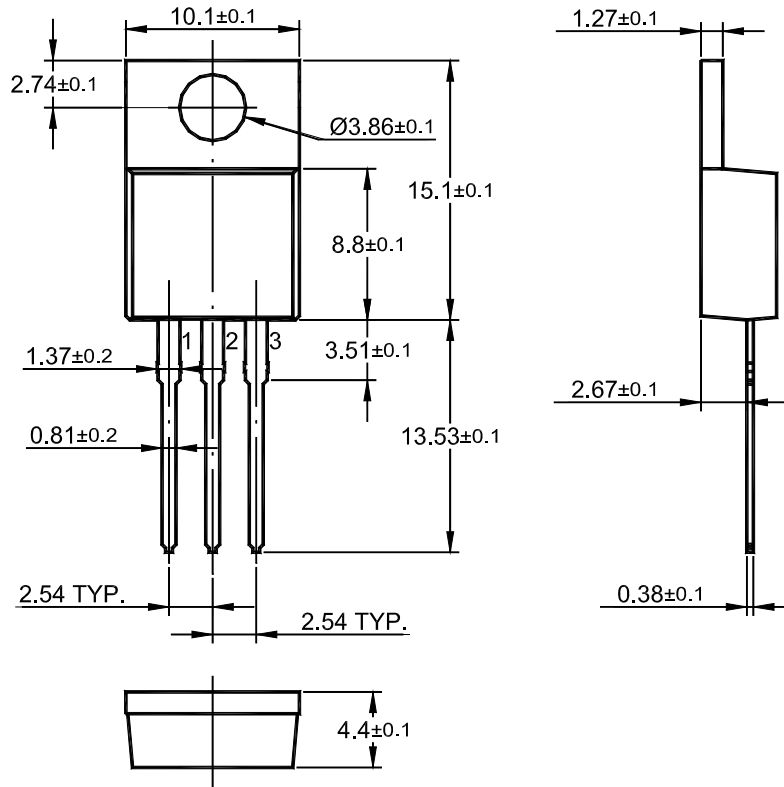
ISO 14001 : 2004 Certificate No. 121505007
ISO 9001 : 2008 Certificate No. 50114012
OHSAS 18001 : 2007 Certificate No. 0513150606
IECQ QC 08000 Certificate No. E24110014102

Dated : 17/09/2016 Rev:02



2SD1413

TO-220 PACKAGE OUTLINE



Dimensions in mm

TOP DYNAMIC



Dated : 17/09/2016 Rev:02