Technical Data
TRANSISTOR

DISCRETE SEMICONDUCTOR INDUSTRIES

maximum ratings

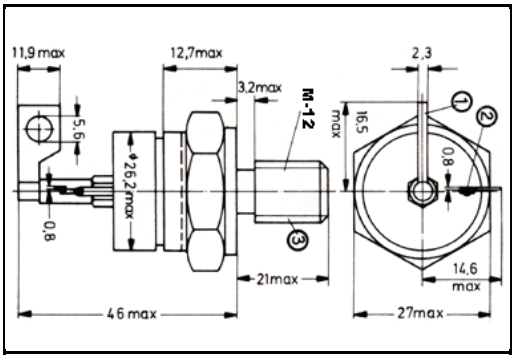
Voltage, Collector to Base (VCBO)	600.0	V	NO.	ESM3004
Voltage, Collector to Emitter (VCE)	400.0	V	TYPE	NPN
Voltage, Emitter to Base (VEBO)	10.0	V		HI-POWER
Collector Current (IC)	120.0	A		
Base Current (IB)	20.0	A	CASE	TO-83_M-12
Max. Power Dissipation (PT) at TC = 75 °C	400.0	W		
Max. Thermal Resistance (Rth J-C)	0.25	°C/W		
Max. Junction Temperature (TJ)	175.0	°C		

PERFORMANCE CHARACTERISTICS at T_C = 25°C, unless otherwise noted

NO.	SYMBOL	CONDITIONS		MIN.	MAX.	UNITS
1.	BVCEO	IC = 0.5 A	(1)	400.0	-	V
2.	BVEBO	IE = 0.2 A	(1)	10.0	-	V
3.	ICEV	VCE = 600.0 V, VEB = 1.5 V, TJ = 125.0° C		-	5.0	mA
4.	ICER	VCE = 600.0 V, RBE = 10.0 Ω, TJ = 125.0° C		-	10.0	mA
5.	IEBO	VEB = 5.0 V		-	30.0	mA
6.	VCE(SAT)	IC = 65.0 A, IB = 13.0 A, TJ = 100.0° C	(1)	-	1.5	V
7.	VCE(SAT)	IC = 100.0 A, IB = 33.0 A, TJ = 100.0° C	(1)	-	2.0	V
8.	VBE(SAT)	IC = 65.0 A, IB =13.0 A, TJ = 100.0° C	(1)	-	2.2	V
9.	tON	VCC = 200.0 V, IC = 65.0 A, IB = 13.0 A	(2)	-	1.5	µs
10.	ts	VCC = 200.0 V, IC = 65.0 A, IB = 13.0 A	(2)	-	3.5	µs
11.	tf	VCC = 200.0 V, IC = 65.0 A, IB = 13.0 A	(2)	-	1.0	µs
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						

Notes (1)typ. value / pulse-tested tp≤300µs, duty cycle ≤2%
(2)typical value

DIMENSIONS in mm



Marking ESM3004
Customer GENERAL PURPOSE