



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

ATP204 — General-Purpose Switching Device Applications

Features

- Low ON-resistance
- 4.5V drive
- Halogen free compliance
- Large current
- Slim package
- Protection diode in

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		100	A
Drain Current (PW≤10μs)	I _{DP}	PW≤10μs, duty cycle≤1%	300	A
Allowable Power Dissipation	P _D	Tc=25°C	60	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	E _{AS}		235	mJ
Avalanche Current *2	I _{AV}		50	A

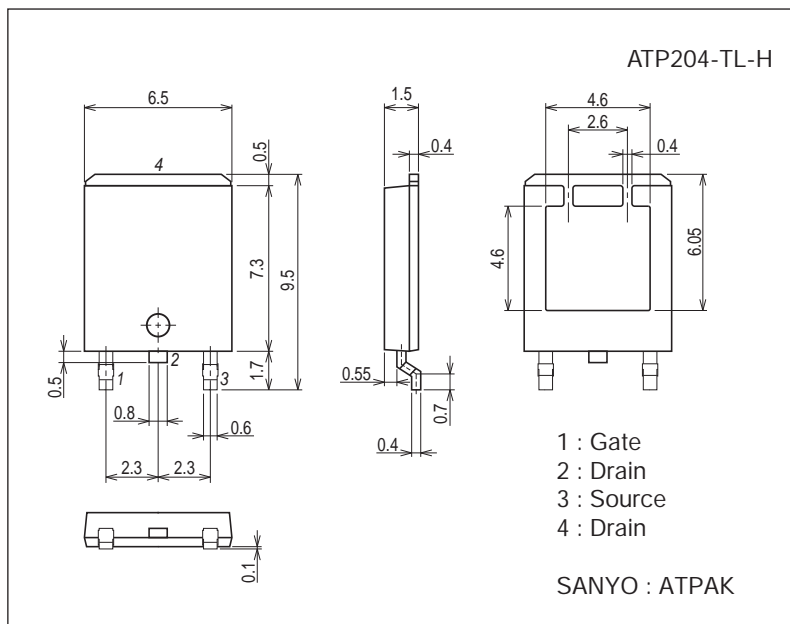
Note : *1 V_{DD}=15V, L=100μH, I_{AV}=50A

*2 L≤100μH, Single pulse

Package Dimensions

unit : mm (typ)

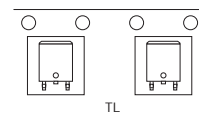
7057-001



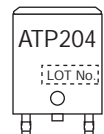
Product & Package Information

- Package : ATPAK
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

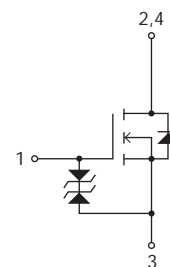
Packing Type: TL



Marking



Electrical Connection

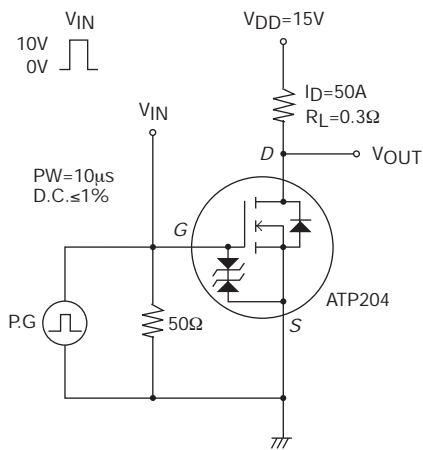


ATP204

Electrical Characteristics at Ta=25°C

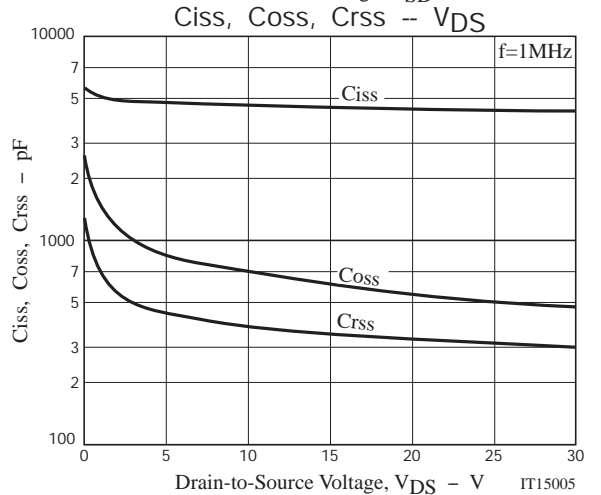
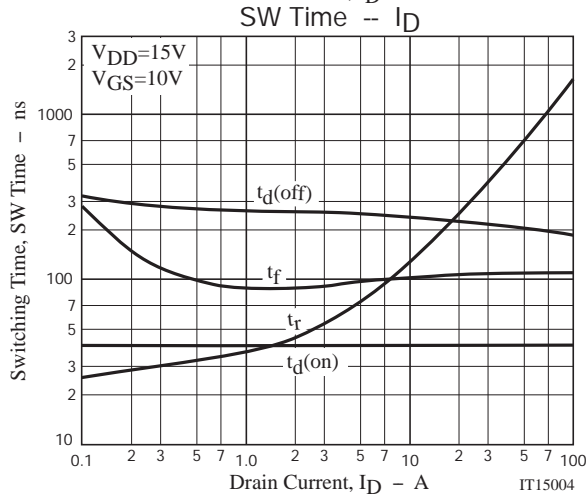
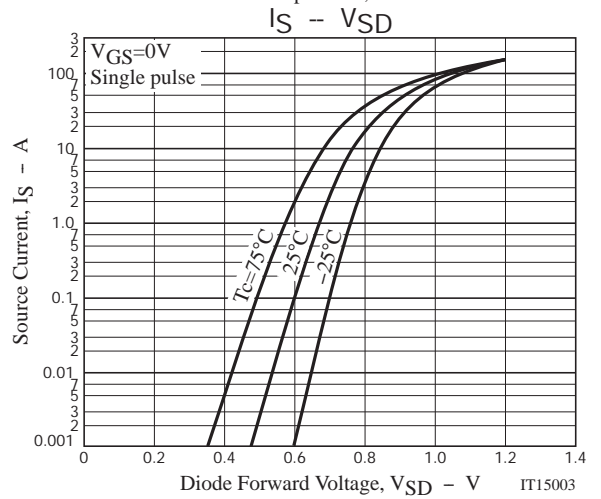
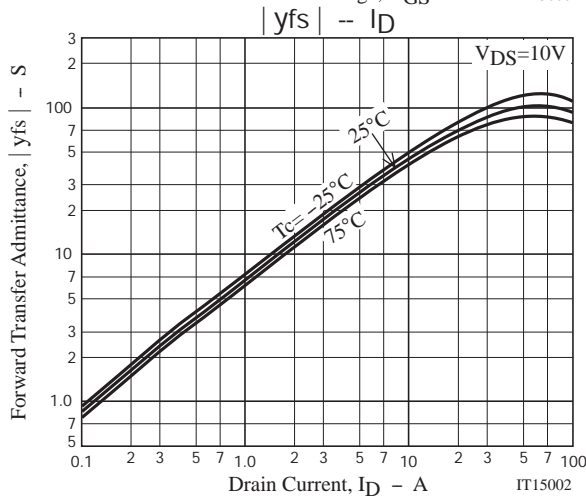
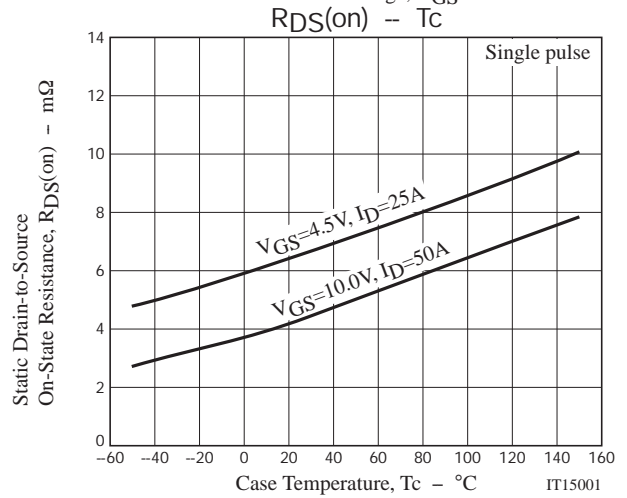
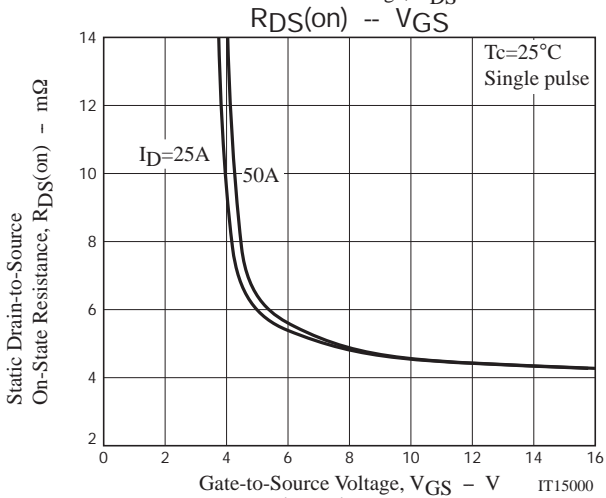
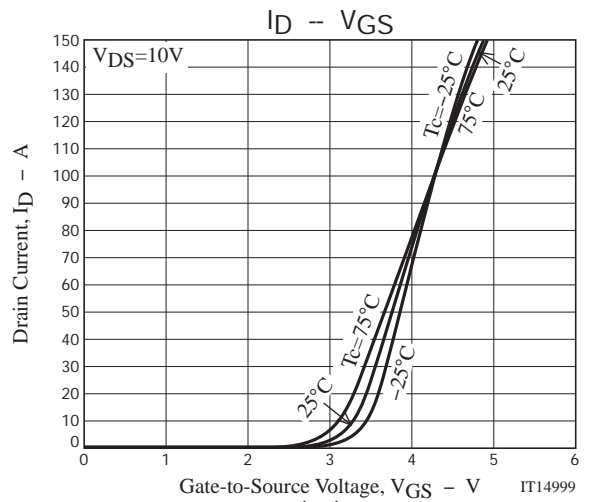
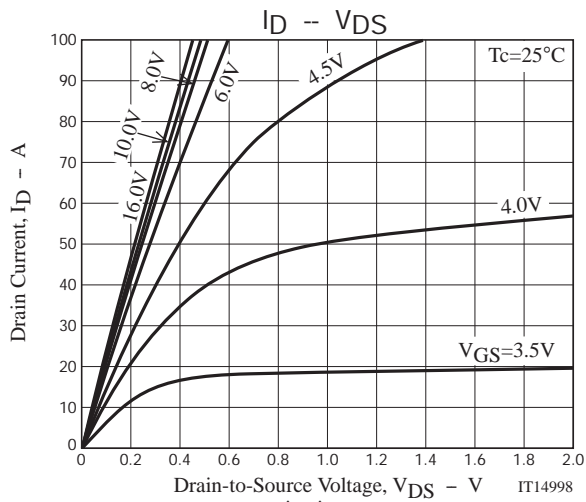
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.2		2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =50A		100		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =50A, V _{GS} =10V		4.3	5.6	mΩ
	R _{DS(on)2}	I _D =25A, V _{GS} =4.5V		6.5	9.1	mΩ
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		4600		pF
Output Capacitance	C _{oss}			700		pF
Reverse Transfer Capacitance	C _{rss}			390		pF
Turn-ON Delay Time	t _{d(on)}			40		ns
Rise Time	t _r	See specified Test Circuit.		690		ns
Turn-OFF Delay Time	t _{d(off)}			205		ns
Fall Time	t _f			110		ns
Total Gate Charge	Q _g			70		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =15V, V _{GS} =10V, I _D =100A		22		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			9.2		nC
Diode Forward Voltage	V _{SD}		I _S =100A, V _{GS} =0V		1.03	1.2

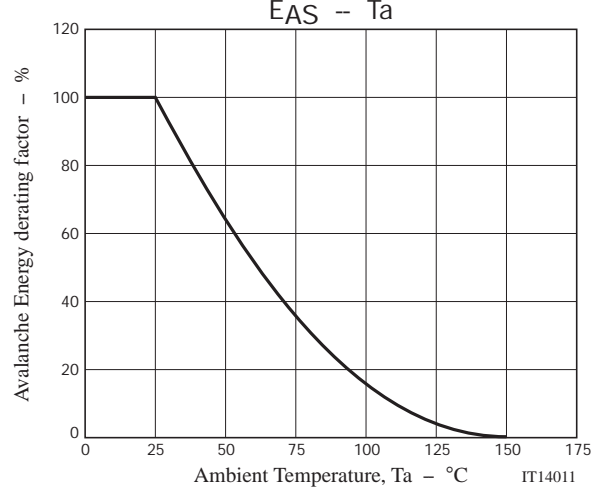
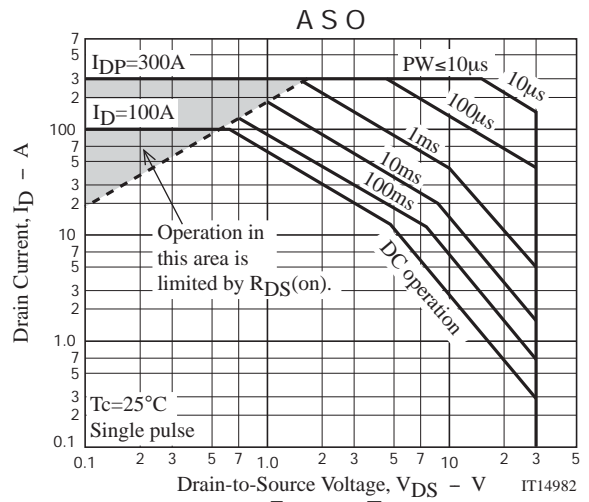
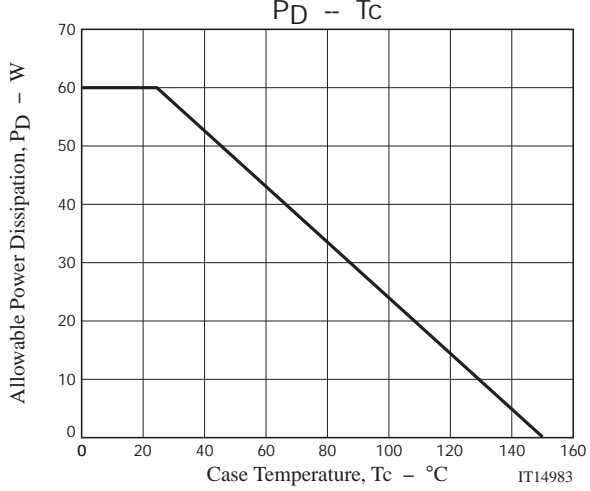
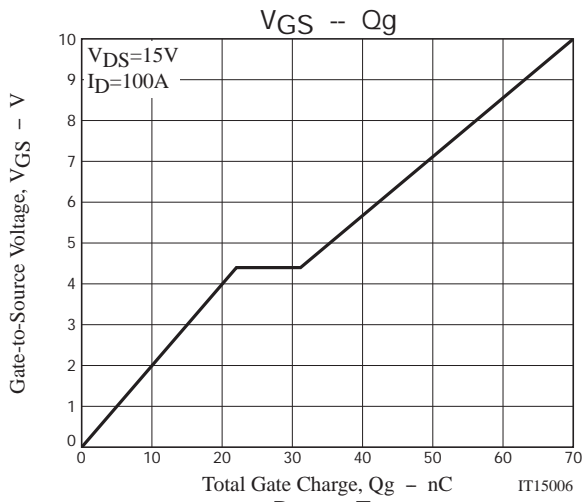
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ATP204-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free





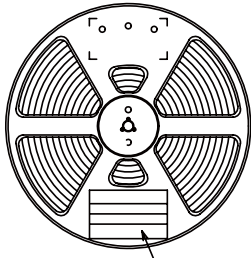
Taping Specification

ATP204-TL-H

1. Packing Format (TL)

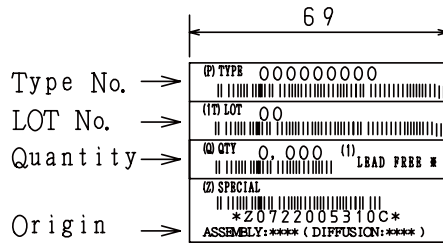
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



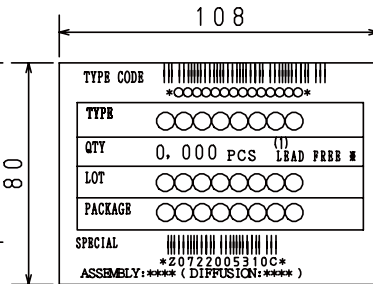
Reel label

Reel label, Inner box label
(unit:mm)



Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



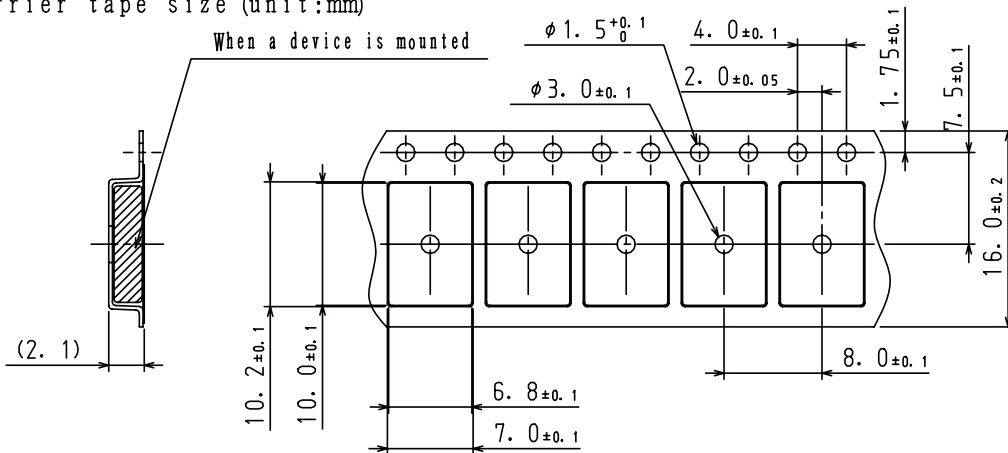
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

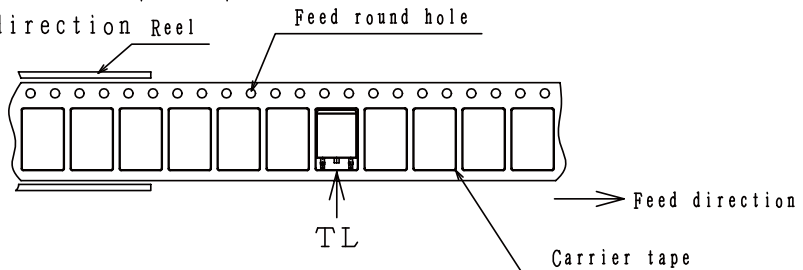
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction Reel



The one electrode terminals on feed hole side...TL

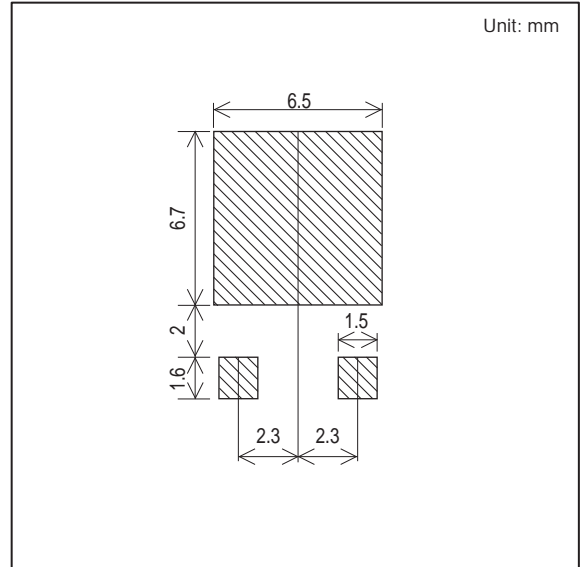
ATP204

Outline Drawing

ATP204-TL-H



Land Pattern Example



Note on usage : Since the ATP204 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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