



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

VEC2315 — P-Channel Silicon MOSFETs

General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=105\text{m}\Omega(\text{typ.})$
- 4V drive
- High-density mounting
- Protection diode in
- Halogen free compliance

Specifications

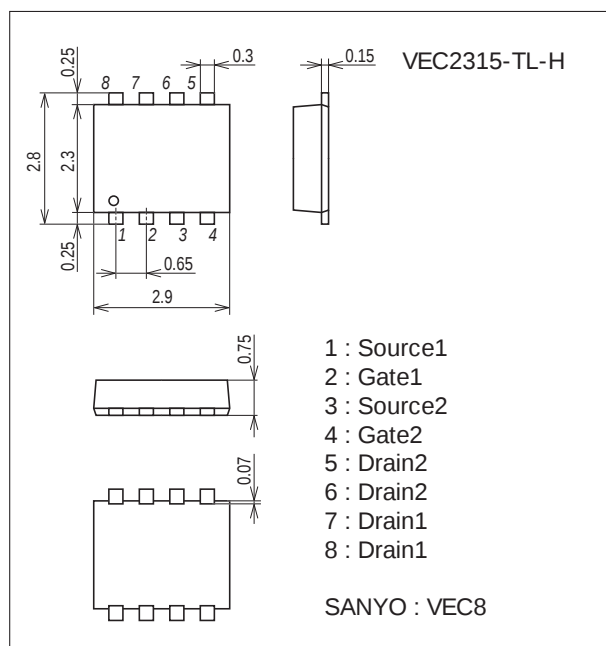
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		-60	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		-2.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-10	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² ×0.8mm) 1unit	0.9	W
Total Dissipation	P_T	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.0	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

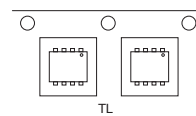
7012-002



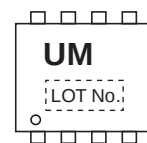
Product & Package Information

- Package : VEC8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

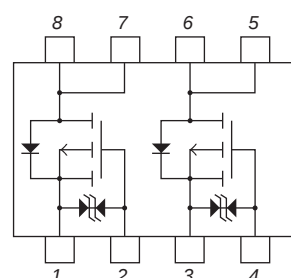
Packing Type : TL



Marking



Electrical Connection

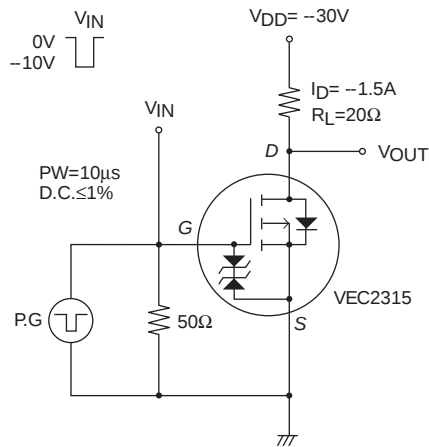


VEC2315

Electrical Characteristics at Ta=25°C

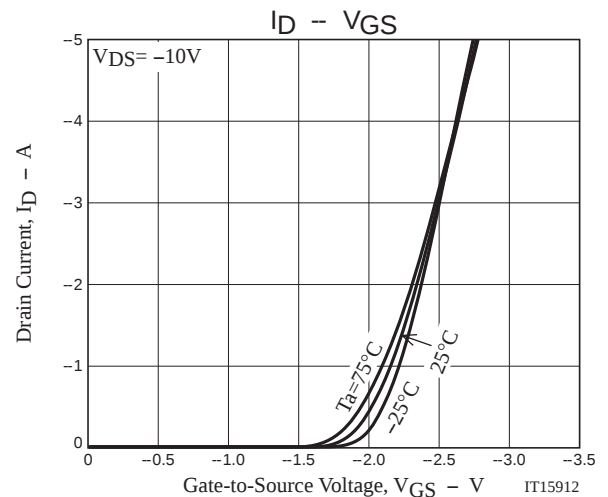
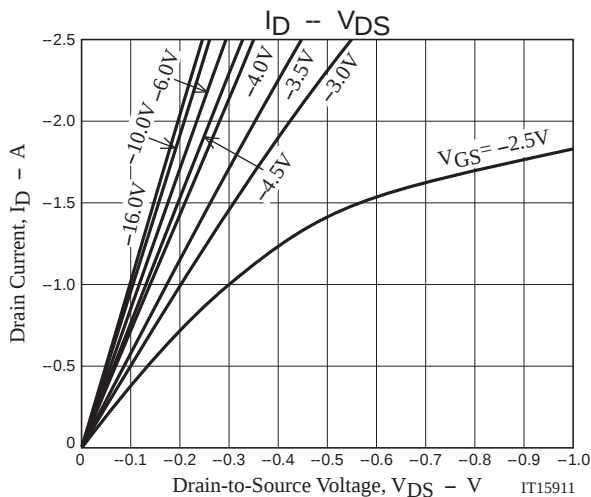
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0V$	-60			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -60V, V_{GS} = 0V$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16V, V_{DS} = 0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -1mA$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10V, I_D = -1.5A$		3.9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -1.5A, V_{GS} = -10V$		105	137	$m\Omega$
	$R_{DS(on)2}$	$I_D = -0.75A, V_{GS} = -4.5V$		128	180	$m\Omega$
	$R_{DS(on)3}$	$I_D = -0.75A, V_{GS} = -4V$		138	194	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -20V, f = 1MHz$		420		pF
Output Capacitance	C_{oss}			54		pF
Reverse Transfer Capacitance	C_{rss}			44		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		6.4		ns
Rise Time	t_r			9.8		ns
Turn-OFF Delay Time	$t_d(off)$			65		ns
Fall Time	t_f			36		ns
Total Gate Charge	Q_g	$V_{DS} = -30V, V_{GS} = -10V, I_D = -2.5A$		11		nC
Gate-to-Source Charge	Q_{gs}			1.4		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			2		nC
Diode Forward Voltage	V_{SD}	$I_S = -2.5A, V_{GS} = 0V$		-0.83	-1.2	V

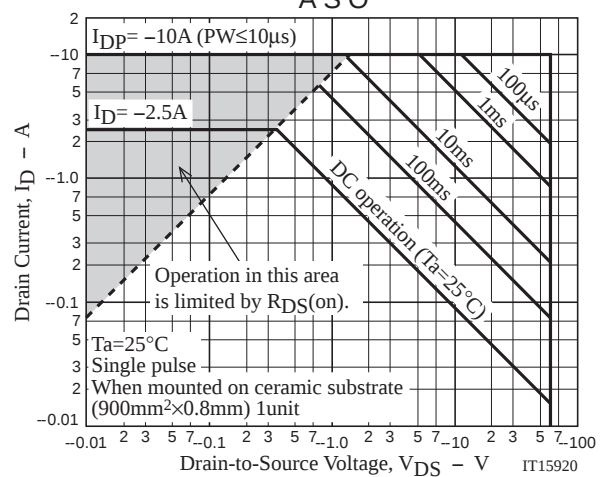
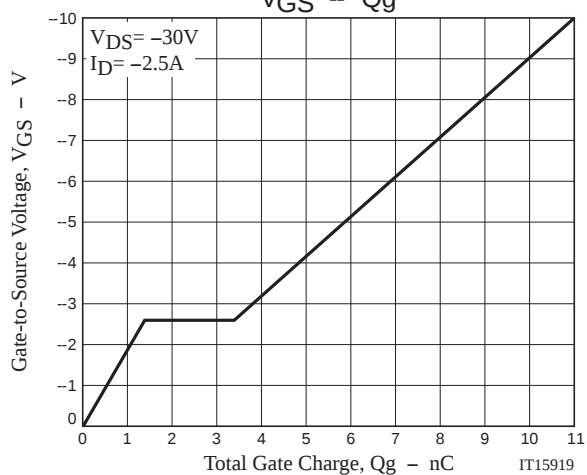
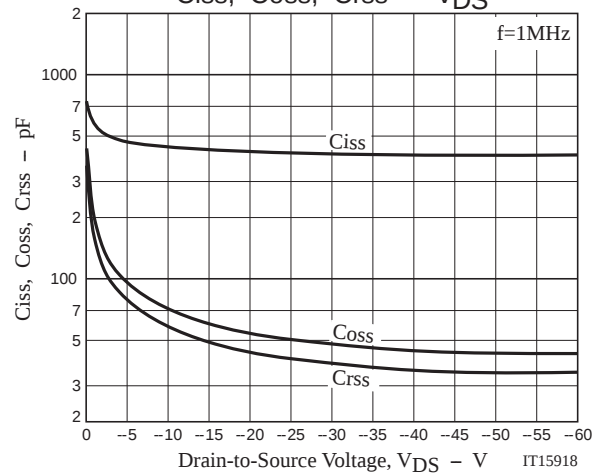
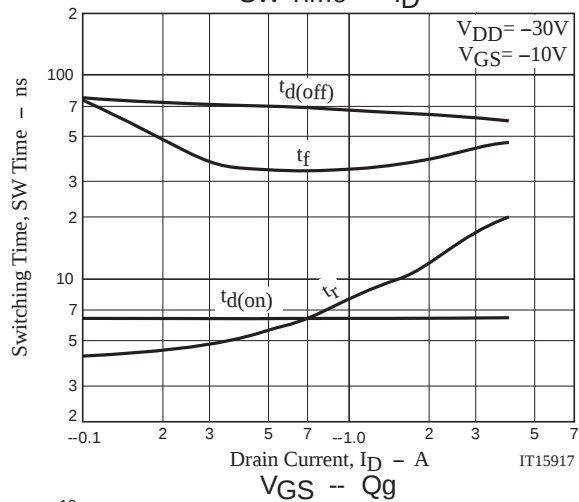
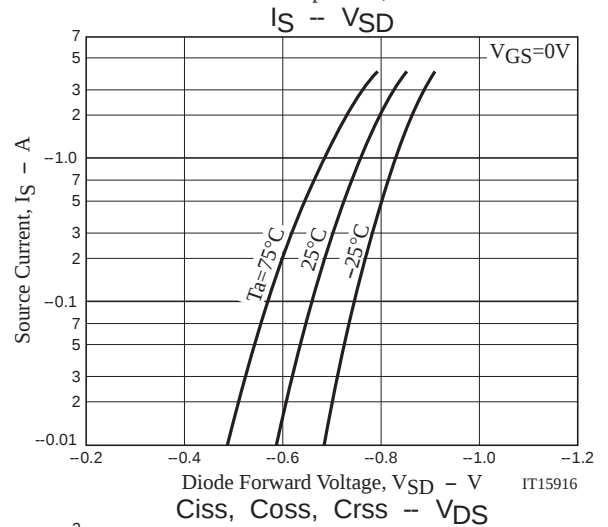
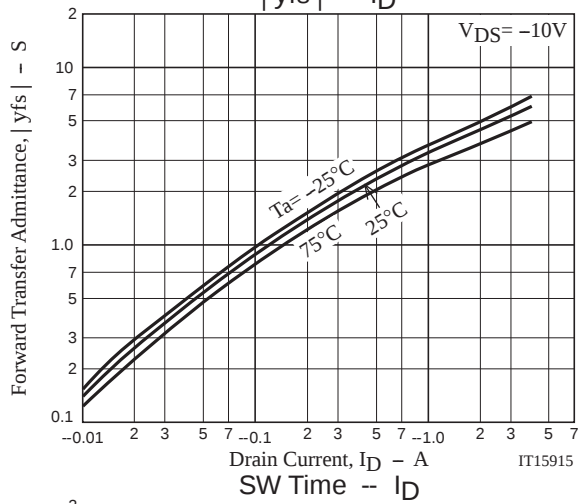
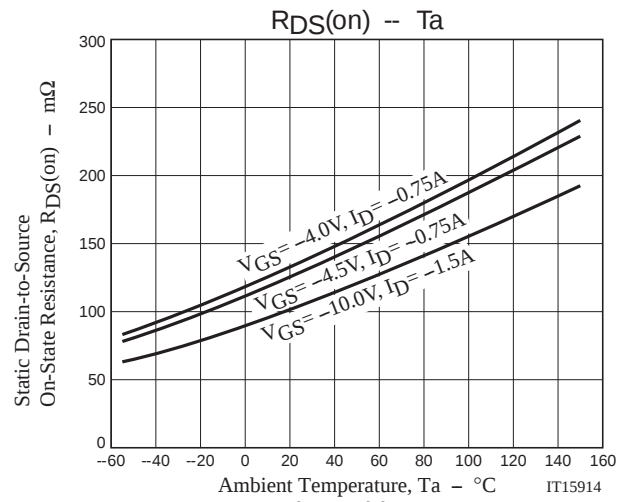
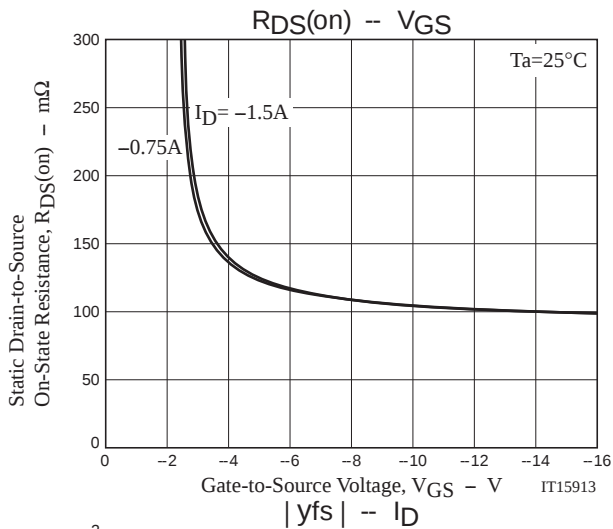
Switching Time Test Circuit

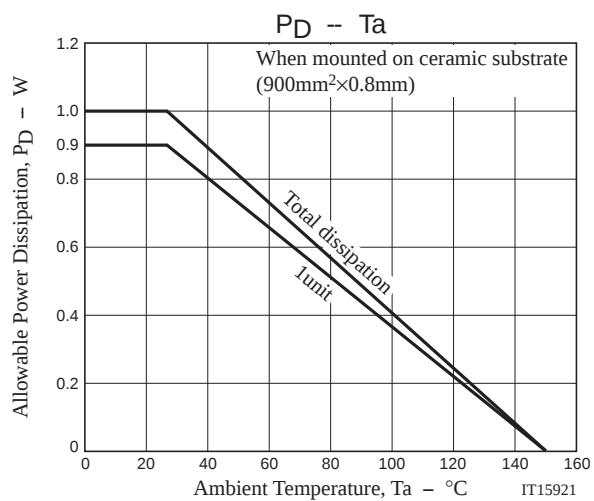


Ordering Information

Device	Package	Shipping	memo
VEC2315-TL-H	VEC8	3,000pcs./reel	Pb Free and Halogen Free







Taping Specification

VEC2315-TL-H

1. Packing Format

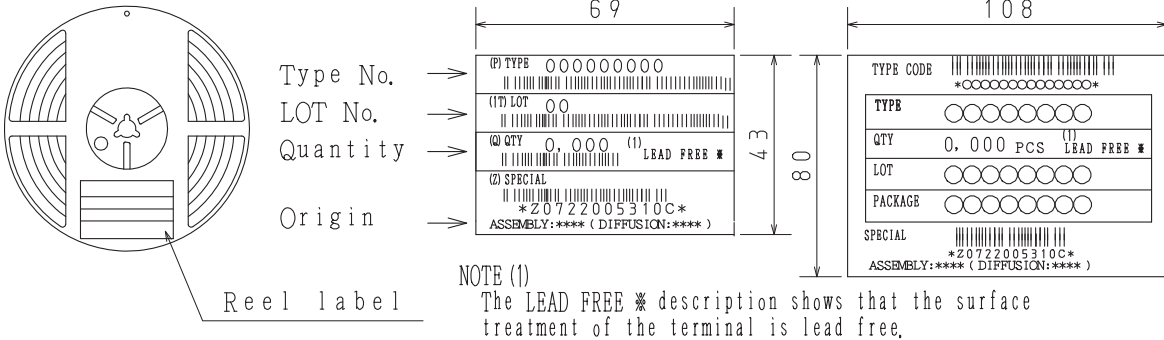
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
VEC8	CPH6	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

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.

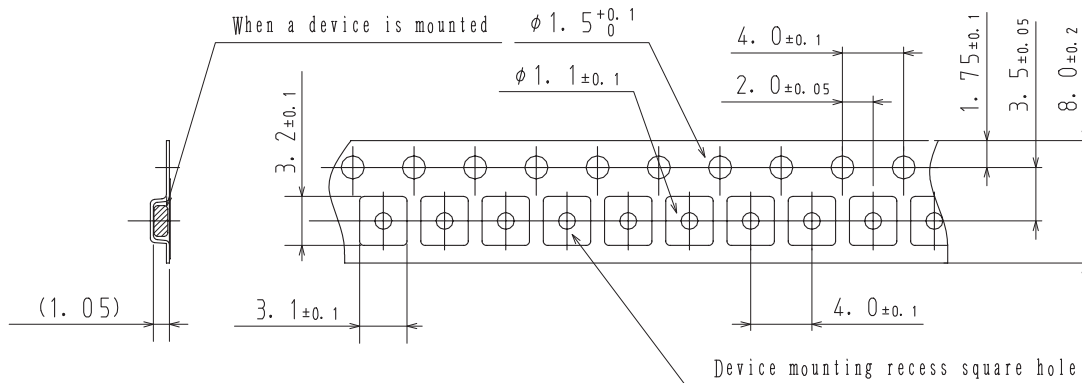
Packing method



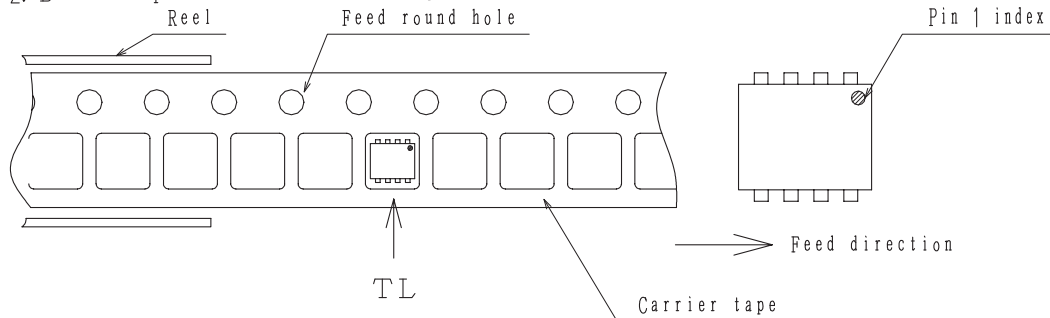
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

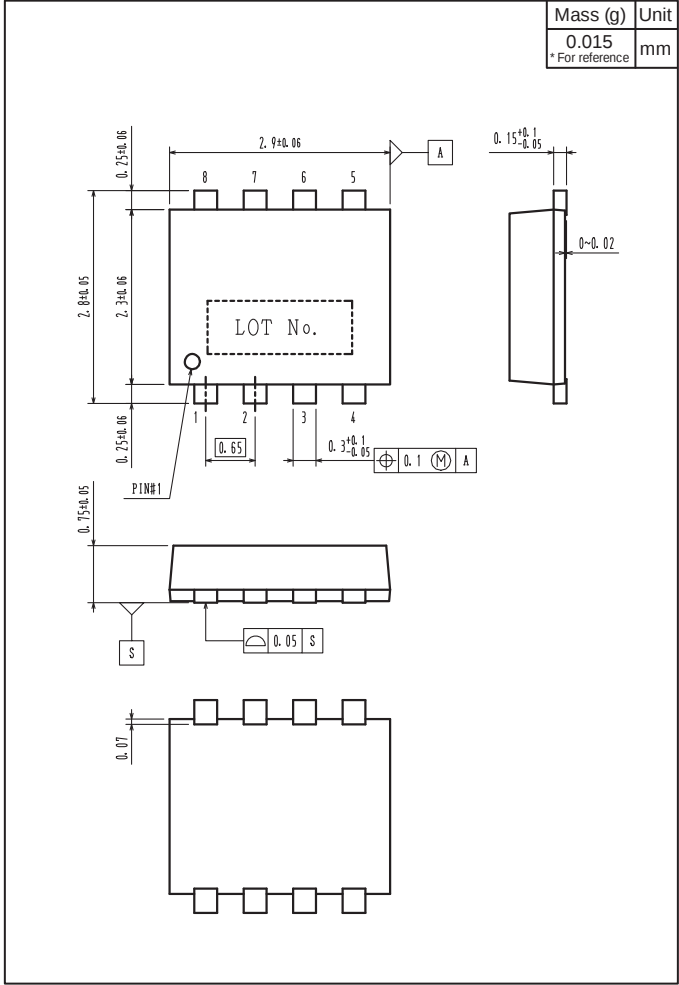
2-1. Carrier tape size (unit:mm)



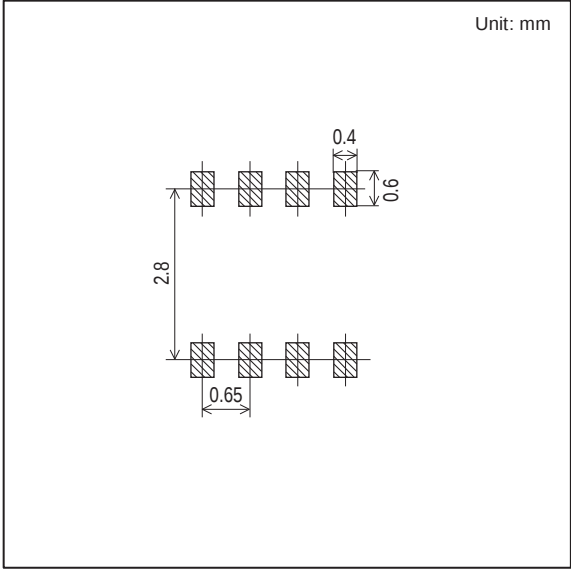
2-2. Device placement direction



Outline Drawing
VEC2315-TL-H



Land Pattern Example



Note on usage : Since the VEC2315 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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